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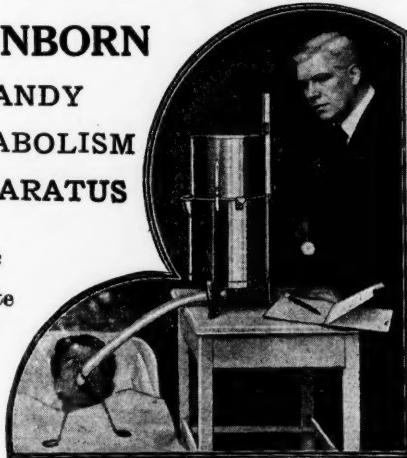
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The Journal OF THE Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XXII

GRAND RAPIDS, MICHIGAN, APRIL, 1923

No. 4

Original Articles

VISUAL CHANGES DUE TO SINUSITIS REPORT OF TWO CASES

WALTER R. PARKER, M. D.
DETROIT, MICH.

In this report no attempt will be made to give a comprehensive survey of the whole subject of ocular symptoms in sinusitis. I shall report two cases. One case of blindness in one eye, and vision reduced to objects in the other, due to sinusitis, in which the clinical examination was negative, except for suggestive changes shown in the X-ray; and a second case, in which there was a retrobulbar neuritis with loss of central vision relieved by drainage of the sinuses, following an operation on the septum.

Case No. 1.—E. E., male, aged 21, presented himself at the Ophthalmological clinic of the University Hospital for refraction on February 2, 1919. At this time his vision with correction was 6/5 in each eye.

Ophthalmoscopic examination revealed a few coarse and fine vitreous opacities, an embryonic remnant on the disc extending into the vitreous 6 or 7 diopters, the disc hyperaemic, rings somewhat blurred, the veins slightly engorged, the retina hyperaemic, and the macular region granular.

DIAGNOSIS

Neuro-retinitis with vitreous opacities. Advised to have examination for evidence of dental infection, or involvement of the sinuses or tonsils.

On March 26, 1919, six weeks after the first examination, patient returned to hospital and gave a history of feeling somewhat depressed with headaches, most marked over the left eye. There was also sensation of pain in left eye on movement up and out. The following day he complained of blurred vision, and examination showed the vision in the right eye 6/7½, left 6/60.

PREVIOUS HISTORY

When a child, had mumps and measles, and four years ago a mild attack of diphtheria. Six years previous to time of examination suffered an attack of sinusitis with headache over right eye, with recurrent attacks about four and two years ago. During the attack four years ago, patient noticed flickering light before the onset of the disease, followed by severe morning headaches. During the past two years has had no acute attacks of sinusitis, but he feels, vaguely, that the condition never entirely cleared up.

Present illness dates from February 10, 1919, when patient had a slight cold, followed by a noticeable

amount of nasal discharge. Recently has felt much better until present time, when he noticed diminution of vision.

Medical and neural examination negative. Wasserman examination of the blood negative.

Dr. Canfield reported wide septal deflection with contact on left side. Drainage of left ethmoid inadequate.

X-RAY EXAMINATION

"The accessory sinuses are well shown, somewhat unsymmetrically developed, larger on the right side than on the left. The frontals, ethmoids and sphenoids are perfectly clear. The left maxillary is both smaller and less well illuminated than the opposite. On further study we made out some asymmetry of shadows represented by several ring shaped shadows on the lateral wall of the nose posteriorly and projecting into the maxillary cavity. They probably represent the inferior members of the posterior group and if so, they represent a definite chronic ethmoiditis. The nose shows considerable deviation of the septum, but without secondary changes in the turbinates. There was no evidence of dental infection." By Van Zwaleunberg.

OPHTHALMOSCOPIC EXAMINATION

Ophthalmoscopic examination revealed edema of the nerve head in the right eye, with hyperemia of the retina, veins engorged, and a few small yellowish dots in the macular region. In the left eye, edema of disc, rings blurred, retina edematous, veins engorged.

The fields, Fig. I., show a marked peripheral contraction for form and colors in both eyes, with a marked segmental contraction down and in, in the left eye, and up and in, in the right. In the right eye there was an enlargement of the blind spot and in the left a small scotoma between the disc and macula. Two days later, March 28, 1919, vision O. D. 6/5; O. S. counts fingers at 1½ feet, up and in only. Shadows otherwise. Blurring of discs and choroidal changes below the macula, otherwise same as before. O. S. Disc swollen about 3 diopters, marked neuro-retinitis and edema.

Patient transferred to Department of Oto-Laryngology for operation. Shortly before time of operation, the vision in the left eye was nil, and in the right eye, moving objects. Disc, right eye swollen 3 diopters, retina edematous.

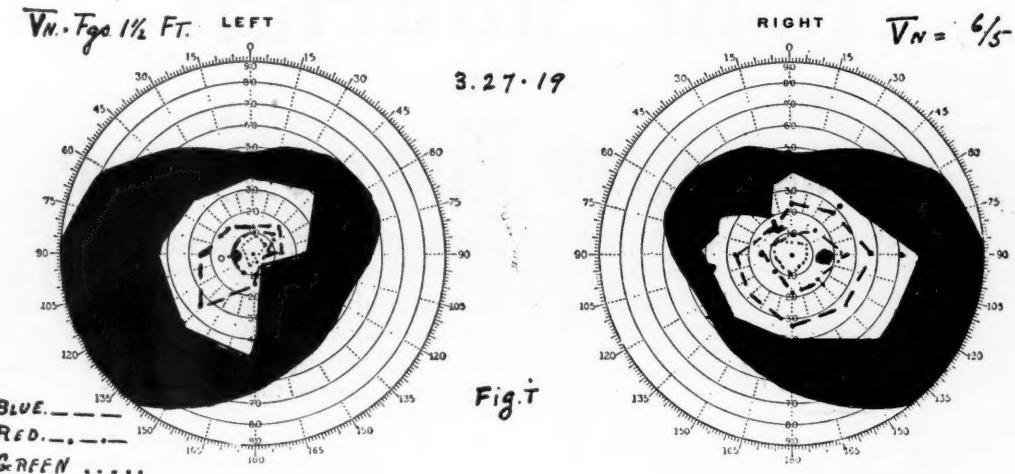
OPERATION

The posterior ethmoids and sphenoids were opened from both sides, and about two drams of pus evacuated from each side.

April 18, 1919, vision O. D. 6/12; O. S. 6/7½. Swelling of disc less in both eyes, exact amount of swelling not noted.

April 23, 1919, O. D. 6/9; O. S. 6/7½, swelling of nerve head had disappeared.

April 29, 1919, Fundus examination of the right eye showed some pigment migration below the inferior temporal vessels and localized chorio-retinal changes below the macula.



May 1, 1919. Vision O. D. 6/6; O. S. 6/7½. The fields for form and colors are shown in Fig. II. Fig. II.

Ophthalmoscopic examination O. D. few fine vitreous opacities, disc pale, physiological depression present, lamina cribrosa hazy, some irregular lines along disc border from retrogressive inflammatory changes. Down and out from disc is an area about a disc diameter in size showing distinct choroidal changes. O. S. few fine vitreous opacities, disc well defined, paler than normal, few fine whitish spots in macular region. Vision O. D. 6/5, O. S. 6/4.

August 17, 1920, fifteen months later, vision O. D. 6/5, O. S. 6/4. Ophthalmoscopic examination O. D. fine vitreous opacities, disc pale, physiological cup present, lamina cribrosa not seen, foveal reflex very indistinct. Some diffuse choroidal changes down and out, similar changes less marked up and out. Small group of white spots in macular region. O. S. nerve head not so pale as O. D., otherwise same as last examination.

Seven months after time of last examination, March 24, 1921, patient states he has been having frontal sinus infection and returns for examination of eyes. Vision O. D. 6/4; O. S. 6/4. Ophthalmoscopic examination O. D. slight pigment disturbance throughout entire fundus, most marked in periphery with two localized choroidal areas described above. O. S. few fine vitreous opacities, very fine granular mottling in the macular region. The periphery of the fundus showed fine pigment changes in choroid. Dec. 12, 1921—Vision O. D. 6/4; O. S. 6/4; fields normal. Fig. III.

This case showed vitreous opacities, edema of

retina and swelling of the papilla of three diopters, followed by distinct choroidal changes.

The points of interest are the indefinite findings of X-ray and nasal examinations, the swelling of the discs, the late choroidal changes and the character of the field of vision.

The second case is one showing sudden loss of vision in one eye, relieved by drainage of the ethmoids following an operation on the septum.

CASE II.

Mrs. E. H., aged 30, presented herself at the Ophthalmological clinic of the University Hospital, December 12, 1921, complaining of failure of vision in the left eye.

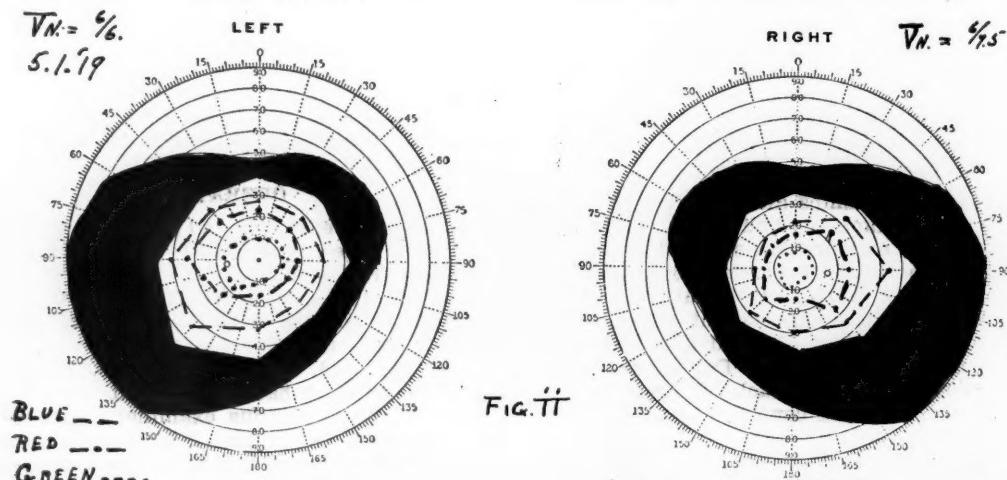
Previous history negative.

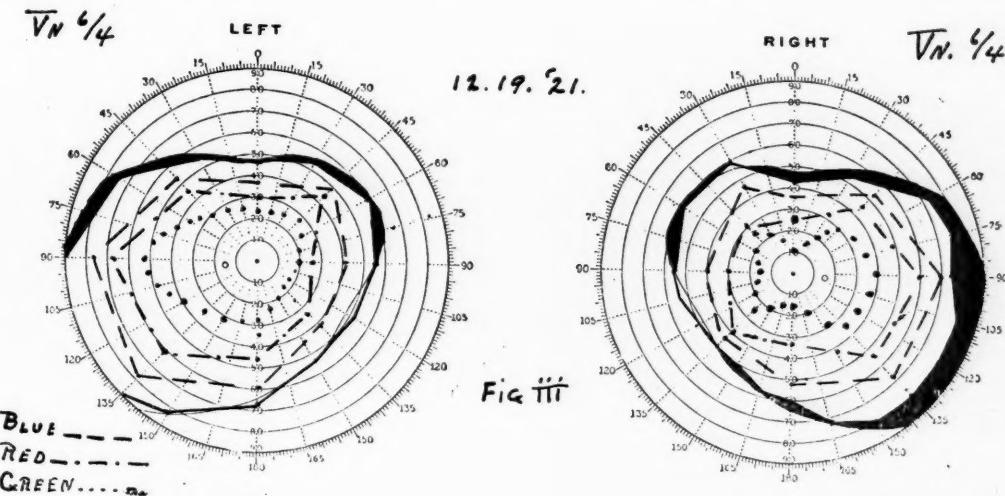
Present attack began one week before entering hospital, when patient bumped her left eye against her baby's head. On the following day the vision in this eye began to fail, and on the third day, the vision was practically gone. Since the second day there has been pain in the left eye and brow. Vision at this time, O. D. 6/6 pt. O. S. counts fingers up and out, objects only straight ahead.

EXAMINATION

External examination negative. Tension normal. Left pupil larger than right, but round, and react to light. O. D. media clear, except posterior vitreous somewhat hazy, and disc hyperaemic. O. S., media clear, except for small nearly central lens bubble, rings blurred, disc edematous, veins engorged, foveal reflex indistinct.

Visual fields, right, normal, left, large central scotoma with no field for green. Fig. IV.





DIAGNOSIS

Right eye, slight neuro-retinitis with edema. Left eye, retro-bulbar neuritis.

General examination, negative.

X-ray department report no evidence of pathology in the sphenoid or ethmoid region. X-ray of all the teeth showed no evidence of foci, all teeth vital. Nose and throat examination revealed septic tonsils, and a deviated septum. Sinuses clinically negative.

December 9, 1921, patient transferred to Department of Oto-Laryngology for submucous operation.

Seven days later, December 16, 1921. Vision O. D. 6/5, O. S. 6/7½. Patient reports rapid improvement in vision following operation. Fields showed no evidence of central scotoma. Fig. V.

December 19, 1921. Vision O. S. 6/6.

The interesting feature of this case is the possibility of trauma playing a part in the etiology, the sudden onset of the amblyopia and the rapid relief following the septal operation with drainage of posterior cells.

DISCUSSION

Referring to the records of the fields of vision in these two cases, it is noticeable that in one case there was a large central scotoma with normal peripheral vision, while in the other there was a concentric contraction in both eyes, associated with an enlargement of the blind spot.

The variation in the fields and the theories

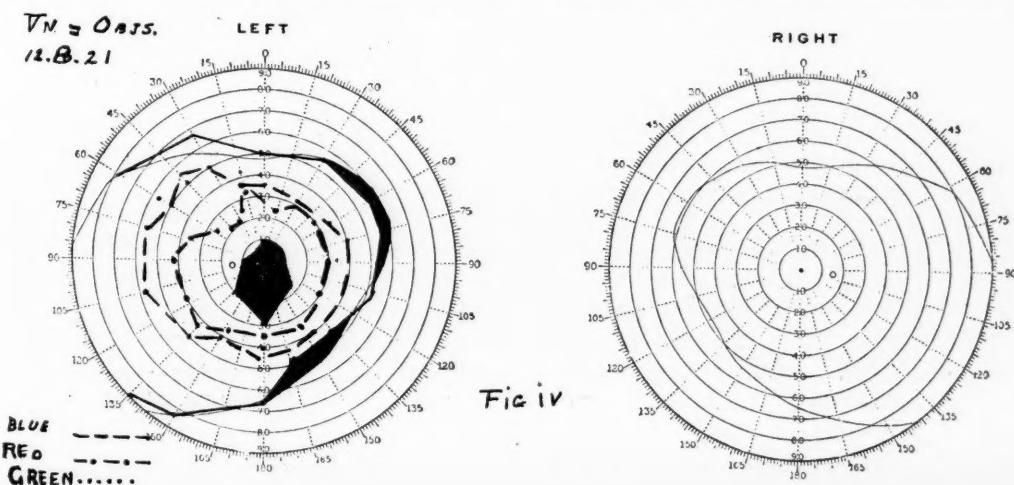
of their causation in cases of retrobulbar neuritis, have given rise to much discussion and speculation. In considering the causes of retrobulbar neuritis in cases of sinusitis at least three conditions deserve especial mention.

1. Pressure on the optic nerve through edema.

2. Inflammation of the orbital portion of the optic nerve beginning in the orbital canal.

3. The presence of a general infecting or toxic agent in the blood.

The possibility of contact or pressure through edema of the nerve and the lining of the posterior ethmoid cells makes the theory of pressure as the etiologic factor in some cases most plausible. It is not inconceivable that the difference in the amount of pressure and the length of time it has existed may be determining influences in the lesions that lead to the various field changes. In the cases here reported, the first was chronic in character, and showed a concentrically contracted field, while the second case with no history of previous attacks of sinusitis, showed no peripheral contraction, but rather a large central scotoma. It may be possible that a gentle pressure, long continued, could interfere with the function of the peri-



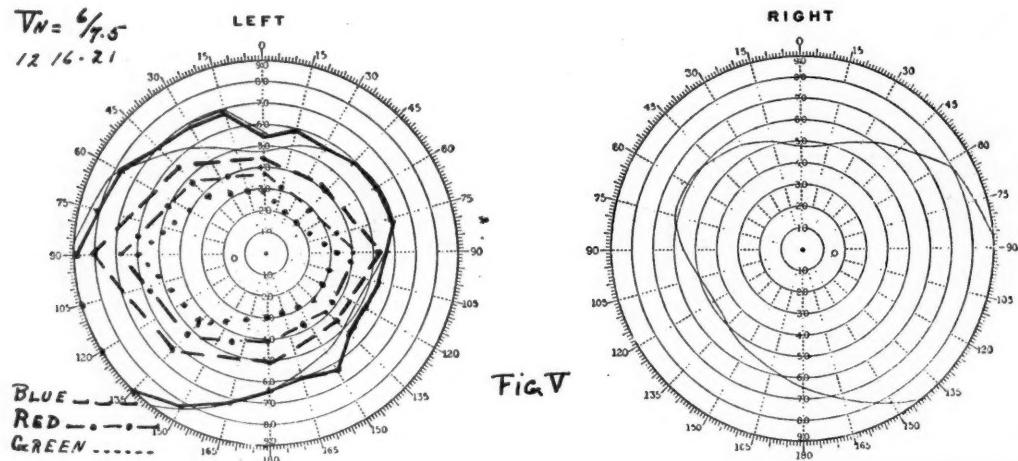


FIG. V

peripheral fibres of the optic nerve, leaving the central papillo-macular bundle intact; while a sudden, more severe pressure might interfere with the function of the highly specialized central fibres before the more resistant peripheral fibres showed signs of pressure. This, of course, is purely conjectural. Edema alone may be the cause of pressure.

The disturbing element in the pressure theory is the well known clinical fact that the old severe cases of pansinusitis rarely show visual disturbance. In fact, most of the cases of amblyopia due to sinusitis complain first, if not entirely, of visual disturbance. In chronic cases, however, the possibility of immunity due to the chronicity of the infection, must be considered.

Inflammation of the optic nerve might lead to pressure on the nerve fibres with clinical symptoms similar to those produced by pressure from without.

The field findings in those cases are interesting, also in connection with the contention of Wilbrand and Saenger (quoting from Lambert—Tr. Oph. Sc. 1918) that the cases of Retro-Ocular Neuritis should not be spoken of simply as acute retrobulbar neuritis, but that they should be classified in three types.

1. Axial Neuritis, with a central scotoma, which may be acute, subacute, or chronic. In this class I would place the second case.

2. Peripheral Interstitial Neuritis, an inflammation commencing usually in the pial sheath and progressing toward the axis. These show a concentric contraction of the field, with good central vision and color perception, or, at times, a sector defect where the process extends only from one side toward the axis, and causes loss of a sector or of an entire half of the field, the rest of the field being free and color perception good. In this class I would place the first case.

3. Diffuse inflammation involving the entire cross-section of the nerve, as in acute myelitis. Transition forms occur. They believe

that neuritis retrobulbaris must disappear from our nomenclature, as it is usually understood as causing central scotoma, as the character of the field depends upon portion of the nerve involved. In any event, the third condition to be considered, namely, the presence of a general infecting agent in the blood, is, in most cases, probably the determining factor in the etiology of the visual disturbance especially in those cases showing a central scotoma.

The uncertainty of the X-ray findings as a diagnostic factor in the sinusitic makes one hesitate to be guided by them to the exclusion of clinical findings. Doubtful shadows are sometimes found in cases that turn out to be normal, and many badly infected cases may give negative results. We must therefore be guided by all clinical findings. Occasionally the only definite manifestations may be the eye symptoms and sometimes there is present a central scotoma only, usually developing rapidly in an otherwise normal individual.

Finally are the choroidal changes noted in the first case reported, in any way due to the same toxic element that produced the lesion that lead to the changes in the visual fields? I have no proof that they are, but if a typical case of disseminated choroiditis can result from the influenza bacilla, or its toxines, it is not impossible that similar results might follow a toxæmia that can produce a retrobulbar neuritis.

In regard to treatment, drainage of the ethmoids may be indicated, based on the changes in the visual fields alone. It is assumed of course, that toxic substances that might produce similar field changes have been eliminated as well as certain general diseases, notably multiple sclerosis.

DISCUSSION

DR. ROY B. CANFIELD, (Ann Arbor): Dr. Parker entitled his paper "Amblyopia Due to Sinusitis." As a rhinologist I prefer to consider such cases as otherwise unexplained, rapidly progressing difficulty in vision in the presence of sinusitis. That is the problem—the cases which the ophthal-

mologist refers to the rhinologist because of rapidly increasing difficulty in vision which he himself is unable to explain from his own standpoint. The rhinologist must ask himself, What is the mechanism by which this difficulty in vision is being produced? Up to the present it seems to me that mechanism has not been explained. Dr. Parker has mentioned various theories—toxemia, pressure and local infection. When we think of the number of cases of suppurative sinus disease in which no disturbance of vision is experienced by the patient, it seems to me we must believe that there is something either in the pre-disposition of the patient or in the anatomical configuration of his skull that is of importance in this question.

In 1880, a Frenchman described a skull in which he said we might expect to find retrobulbar neuritis in event a sinusitis should occur in such a head, and described it as one in which the course of the optic nerve was very intimately associated, anatomically, with the posterior ethmoid cells. It occurs to me that we must concede that a patient who develops a neuro-retinitis as a result of sinusitis must have a peculiar predisposition toward neural involvement. The rhinologist must, of course, attack such cases with considerable speed. He asks himself first whether this patient has good vision or impaired vision. Some of these cases of neuro-retinitis are sent to our clinic while the vision is good, and we ask ourselves how long we may observe this patient before his vision fails. Second, what is the percentage of impaired vision and how long will it persist without becoming permanent?

Our treatment of the case depends largely upon the answer to these questions.

The first case Dr. Parker referred to was more dramatic than he recited it. We saw the case first blind in one eye and with good vision in the other. We operated on the blind spot, and he immediately was blind on the good side. Then we operated again, and by the time we had finished the second operation the blindness had disappeared from the first side, and four days later he had good vision on both sides.

It seems to me these cases fall into two classes, those in which there is no clinical evidence of sinus trouble, and those in which there is some clinical evidence of sinus trouble. Our course seems rather plain in those cases in which there is evidence of sinus trouble. It seems quite logical to operate and clean up the sinuses—less logical to operate if he does not have sinus disease. The first case of Dr. Parker had no evidence of sinus trouble on one side, but on the other side he did. Yet at the time of operation suppurative sinusitis was found on both sides. I think, therefore, there is more danger in not operating on these cases—more danger of increasing the trouble in the eyes. I have seen some cases of chronic neuro-retinitis with an old sinusitis much relieved by getting rid of the sinus trouble.

Dr. Coffin of New York has reported some favorable results with the suction apparatus without operation. He was criticized recently for publishing the statement if suction was resorted to the difficulty in vision might clear up. It seems fair to him to say that up to the present we do not know why these patients develop neuro-retinitis. We do not know the mechanism of the establishment of this neuro-retinitis, and when we are told this patient is rapidly going blind and the ophthalmologist sees no real cause for his blindness, it seems to me it is necessary to examine his sinuses, not only by the use of the X-ray, but by surgery. We realize that if we open a healthy ethmoid we do the patient very distinct damage. We know if he has

sinus disease bringing about his blindness, it is either in the posterior ethmoid or sphenoid. At least, I have never seen a case of neuro-retinitis due to antrum trouble; I have never seen it in a patient with frontal sinus trouble. All those I have seen have been posterior ethmoid or sphenoid, or both, so I think it is only logical to examine the posterior ethmoids and sphenoid in such a way as not to do the patient any real damage.

DR. G. E. WINTER, (Jackson): I would like to ask Dr. Parker if he depends upon his X-ray findings alone for his interpretation?

DR. WILFRID HAUGHEY, (Battle Creek): I am just recovering from a surprise party. I had a patient who for a week or ten days I had been treating for ulcerated teeth. She had two of them. A week ago last Saturday she had two teeth extracted. About the third or fourth day she complained of pain in the side of her face on the right side, and the fifth day she began to go blind. The sixth day she came in to see me with an X-ray plate. She had been to a general practitioner and his X-ray man took the picture. It showed the right antrum dark and a suspicious shadow in the ethmoid region. The sphenoid was clear as the X-ray showed it. The woman claimed she had complete blindness in the right eye and blindness for central vision in the left eye, but she could see moving objects. In other words, a central scotoma. I examined her nose. Left side was clear; right side, middle turbinate pressing tight against the septum; the membranes all congested and the lower turbinate also congested and pressing against the septum. I shrunk the tissues with adrenalin and cocaine and expected I would get some pus from the ethmoidal region, but did not. I went through under the lower turbinate and washed out about a half teaspoonful from the antrum and then had the patient lie down for about an hour, and she was beginning to see before she left the office. I was surprised. She came in to the office with her husband on one side of her and a nurse on the other, and when she left she opened the door and walked out. The next day, on ophthalmic examination, both eyes were negative. I do not know whether she was seeing in both eyes with quite normal vision, but good vision. She walks to the office without any help and can read the headlines in the paper. I do not know whether that was from the antrum or ethmoid, but I do not think the pus was in the ethmoid. I did not examine the fundus the first day because she was nervous. I know she was not hysterical. I think that follows Dr. Parker's idea that they do clear up rapidly if we drain the proper point of infection.

DR. HOWELL L. BEGLE, (Detroit): I do not think there is any question but what we may expect neuro-retinitis from inflammation of the posterior ethmoid and sphenoid, on account of the close anatomical relation. The question of choroiditis in the first case was especially interesting, and the explanation of that case from the standpoint of focal infection seems to be most probable. These reports should make us aware of the possibilities in these cases, although we certainly are confronted with a great deal of difficulty both in the way of diagnosing the case, and again in deciding what we should do for them.

DR. A. E. BULSON, (Jackson): I have seen a number of cases of amblyopia accompanied with sinus trouble, and last of which was a young man about 24 years of age, who had previously had good vision. He was a stenographer and was constantly using his eyes. He had had his eyes refracted three or four months prior to this, and they were normal. He came into the office about six months ago complaining of sudden loss of vision in

the left eye. I looked at it and found a frank neuro-retinitis. I thought it probably came from the nose, and the X-ray showed the ethmoids. I operated on the ethmoids, the vision immediately cleared up and in 48 hours the vision was completely returned, and all the inflammation gone.

DR. HAROLD WILSON, (Detroit): The title of the paper leads one to believe that there were two definite cases of paranasal infection in this series. It may be that I failed to hear what was said in regard to the second case, but as I understood, no sinus operation was done in the second case. The doctor mentions one septum operation. I simply rise to ask whether a patient who had septum resection and no sinus operation, where the X-ray demonstrated no visible lesion of the para-accessory sinuses, should be included in a series of cases of defective vision arising from paranasal infection? It seems to me to confuse our clinical understanding of these cases, and although the case is highly interesting, to my mind no suggestive etiology was shown. There is a question in my mind whether it was not a case of macular disease. I make this as a suggestive physiological possibility—that unilateral central scotoma might arise from a macular lesion.

DR. HARRY S. GRADLE, (Chicago): We are apt to be a little bit over-enthusiastic in a case of retrobulbar neuritis, but we should be very sure of our diagnosis before we go ahead with nasal operation. We must eliminate all possibility of multiple sclerosis and of syphilis retrobulbar neuritis. Of course, if there are active rhinological indications we may go ahead, but if we have no active indications for sinus operations we must be sure to eliminate every causative factor.

As to the cause, Dr. Parker mentions three. Toxemia—we know that is possible. Whether or not it occurs in sinus disease is a question in my mind. Personally, I am more inclined to favor pressure. As to the third possibility—active infection, I am not willing to concede that as a factor. I reported a case of acute infection proceeding upward from the sinus some years ago, but it was an autopsy report. If we have acute infection in the orbit coming from the sinuses in all probability it will not recover, and I am not willing to believe that we will have an acute infection with complete recovery such as we have all seen.

The traumatism and oedema is rather interesting. Why should not every case of post ethmoidal and sphenoidal disease develop an optic neuritis? Probably, as Dr. Canfield said, due to the anatomy. As we know, many of the post ethmoidal cells are close to the optic nerve and intracanicular fossa. In fact, in many cases the optic nerve runs through the posterior ethmoid cells. It has been shown that in some cases the opening is above the nerve and in others below the nerve. That would be one explanation of why some cases develop retrobulbar neuritis and some do not. If the opening is above, the nerve will be bathed in pus; if the opening is below, then whatever pus there is will drain out. I believe that is one reason why we have so many cases of chronic sinus disease without any involvement of the optic nerve at all.

DR. HOWARD W. PEIRCE, (Detroit): The anatonomists tell us that frequently we have a dehiscence in the upper portion of the posterior ethmoid. I would like to ask if that might be a reason for hyperplastic ethmoiditis producing nerve changes. I would also like to ask if in the second case the condition of the posterior ethmoid and sphenoid, due to the deflected septum, could possibly produce enough oedema to cause the nerve trouble.

DR. WALTER R. PARKER, (closing): In regard to the question by the chairman, whether operation should be done in those cases with negative X-ray findings, there is no question it should. It should warn the man who is responsible for the patient's vision that unless something radical is done the patient may lose his vision. I never opened an ethmoid in my life, so I know nothing about it; but I have been called in several times where I was told, if you think the visual changes are enough to warrant an exploratory operation, it will be done. I have seen a few unfortunate results following the opening of normal ethmoids.

I was more than pleased at Dr. Canfield's conservative attitude in regard to these cases. But if every cause can be eliminated by careful examination, with very rapid deterioration in visual acuity, whether peripheral or central, I think even with negative X-ray findings I should recommend that operation be done.

In regard to late changes in a case like the first one, as a matter of fact the more acute cases do not as a rule have late degenerative changes in the optic nerve. Cases have been reported—chronic cases of sinusitis in which there have been secondary atrophic changes resulting usually in partial loss of vision, but it is quite remarkable that these cases will go down to, say, 20/50, with a pale nerve head, but the process will not continue. I have a case under observation now that I have been watching for twenty years. I never did know what was the matter with her. She had what was diagnosed as a retrobulbar neuritis. I think the diagnosis was correct, but the etiology I do not know anything about. She has had 20/50 vision for twenty years. In your descending atrophies you may have partial loss of vision which is constant.

In regard to Dr. Wilson's criticism of the title of my paper, I think it is well taken. The title really should have been, "Visual Changes in Sinusitis."

DR. CANFIELD: I would like to ask for a discussion of the probable duration of this decrease of vision. How long can we play with these patients before we operate on them?

DR. PARKER: That is very easily answered because I do not know.

While I was in Washington I was called as consultant in a clear case of amblyopia from sinusitis. The patient was the wife of one of the officers. The X-ray examination was negative, the clinical findings were negative, but her vision went in five days from normal to 20/200. The man who had charge of the ethmoid part of her anatomy refused to operate. We watched that patient for two weeks; her vision was then about 20/200. She then was taken to another rhinologist who did open the posterior ethmoids, and found they were infected, and the patient made a complete recovery in a comparatively short time. I think if we go back over our records we will find we have seen many cases of central scotoma, swelling of the nerve head, and neuro-retinitis that have gone on for a long period and we have had no idea what was the matter.

DR. G. E. WINTER: The X-ray findings in the Washington case were negative?

DR. PARKER: Absolutely negative.

DR. WINTER: So you cannot depend upon the X-ray alone?

DR. PARKER: In our cases we have come to believe that the X-ray findings are merely incidental, but they do help. They are one contributing element in diagnosis, but nothing more.

CIVILIAN GUNSHOT WOUNDS OF THE ABDOMEN*

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When one gunshot wound of the abdomen occurs in a clinic to every four cases of acute appendicitis it makes of itself a clinical entity. As such it demands study just as truly as does appendicitis. We venture, therefore, to make the following remarks based on the cases personally encountered at the Receiving Hospital, at Detroit during the past three years. The figures given are from eighty operated cases. Every case in which it was felt that operation offered even the slightest hope was given that chance. This accounts for the relatively large number of deaths in the operating room, and also to some extent for the high total mortality rate. It is evident that the time interval between injury and the institution of proper surgical treatment is of great importance. The average lapse of time between the shooting and operation as near as could be determined was about two and one half hours. Therefore, our discussion is limited to the early stage before the spread of infection and development of peritonitis.

EIGHTY CASES

Of these 80 cases, 50 were white and 30 colored; 67 male and 13 female. Forty-five recovered and 35 died, a mortality rate of 44 per cent. Of the 35 fatal cases, 19 died of shock and hemorrhage, 9 in the operating room and 10 during the first 24 hours; peritonitis accounted for 9, pneumonia for 5, hemorrhage from the duodenum 1, and thoracic hemorrhage due to an additional chest wound for 1. It may be conservatively stated that at least 12 of these had injuries so severe or extensive as to be beyond hope of surgical aid.

PATHOLOGY

The pathology encountered in civilian bullet wounds is hardly to be compared with that found in military life. The explosive action of high velocity missiles is rarely seen. The injuries one meets even in a small series of cases are bizarre in the extreme. One may well decide before opening the abdomen not to be surprised at anything which may be revealed. One man, shot by a bandit, had a through and through wound from side to side, about the level of the umbilicus. It passed in and out between the coils of intestine, damaging only the mesentery, and that very slightly. Another case had a needle's eye perforation of the common hepatic duct. One had a similar perforation of the renal artery. There was a complete

perforation of the duodenum; another in which the bullet entered the fundus of the stomach and emerged through the wall of the first part of the duodenum, having evidently passed through the pylorus without damaging the latter. A bullet entered the left loin, missing kidney, spleen and pancreas, perforated the first loop of jejunum, grooved the under surface of the transverse mesocolon and lodged beneath the serous coat of the transverse colon under a covering so thin as to be practically transparent. Another patient presented one small wound of entrance, but from the amount of damage found it would seem that there must have been four or five bullets, each going in a different direction.

There are few things, therefore, that one may say definitely as to the pathology. However, it may fairly be expected (1) that in wounds of the liver there will be very little laceration and that the bleeding will have ceased or nearly so by the time the abdomen is opened; (2) Likewise that the mesenteric vessels will in many cases of injury have ceased to bleed; (3) That intestinal perforations will usually be small, discrete, without laceration and will be in pairs, that is, a wound of exit opposite the one of entrance into the gut; (4) That macroscopic soiling with intestinal content in perforation of the gut will be very slight; (5) That gas and other stomach contents will not be noticed in perforation of this viscus until it is picked up (unless operation be delayed some hours); (6) That wounds of the diaphragm are very rarely large enough to demand attention.

The following is a rough summary of the pathology found in the above 80 cases:

63 had single external wounds, 17 had multiple.

26 had injuries of single viscera, 50 had injuries of multiple viscera, and 4 had no visceral injury.

We found the liver involved 15 times, the stomach 12, small intestines 35, colon 26, mesentery 20, spleen 2, pancreas 2, bladder 3, kidney 5, external iliac vein 3, gall bladder 1, bile duct 1, with additional spinal injury in 4 cases.

SYMPOTMS AND SIGNS

Here again not too much can be said which will cover such cases as a group since the nature and extent of injury are so variable. Subjectively there is a common complaint of being cold and weak. Abdominal pain is not as a rule very severe, but is usually present and quite frequently is fairly well localized.

The general appearance may be anything from that of a practically normal individual to the most profound degree of shock and hemorrhage. Here let me say that the general ap-

*Read before Wayne County Medical Society, Sept., 1922.

pearance, and especially the facies, will tell more about the severity of the intra-abdominal injury than local signs. The rolling of half closed eyes and the pinching about pallid lips are ominous. Yet these will often tell an incomplete story. One case had mild local signs, and the general condition was quite good, apparently justifying a guardedly good prognosis. Exploration disclosed about three feet of small intestine and half the transverse colon torn into shreds hopelessly beyond repair.

Locally the points of entrance and exit are of the greatest importance and should be given exact consideration in estimating the nature and extent of injury together with the treatment indicated. Often it is impossible to determine whether or not the second is an exit wound. It may be the entrance of a second bullet. There is practically no distension at the early stage of which we are speaking. The superficial abdominal reflexes are frequently absent either locally or generally. The reason for this is another question, and I am uncertain of its value in localizing injury. Reduction or obliteration of liver dullness is very rarely seen. Rigidity is usually very slight, or absent, except in those cases in which there has occurred rather extensive trauma to the parietal peritoneum. And this is true even where there is multiple intestinal perforation. It was quite a surprise on opening the abdomen in the earlier cases where rigidity had been slight, to find several holes in the intestine. Here is a striking difference from the perforation of duodenal or gastric ulcer in which boardlike rigidity is typically present almost from the moment of rupture. Partial explanation of this is probably that the local shock inhibits peristalsis which might otherwise squeeze out irritating intestinal contents; also that the margins of these bullet perforations are not indurated as in the ulcer case, and the pouting mucous membrane tends to close the opening—an important factor high up in the small intestine where the contents are more fluid. The greatest reason is no doubt the free initial bleeding which serves to dilute any irritating material, the blood itself being almost non-irritating to the peritoneum. Tenderness, which is usually moderate, but definite, is a valuable sign in determining both the presence of intra-abdominal injury and roughly its location. Next to the knowledge one may have of the direction of the bullet's flight, this is the greatest aid to a proper location of the incision. Here it is necessary to differentiate between deep tenderness and the superficial tenderness in the region of the external injury. In one case the wound of entrance was in the right lower quadrant where there was marked tenderness and moderate rigidity. There was no wound of exit. Deep tenderness was present

in the upper left, and there the damage was found.

Peristalsis, as determined by auscultation, is usually greatly decreased or absent. It takes a great amount of blood to cause dullness in the flanks, and since clotting is fairly rapid in the peritoneal cavity it does not shift very well. We do not believe it is worth while looking for. The "doughy feel" of the abdomen of ectopic rupture is sometimes noted. X-ray is of value in the occasional case to determine the presence or absence of a bullet, its location, and so, something of its course.

TREATMENT

The only cases we can afford to treat expectantly are those in which it is practically certain that only the liver, or liver and diaphragm are involved. The liver will cease bleeding spontaneously, and it seems poor surgery to open and drain such cases, as is the practice in some quarters.

Again a few cases are too collapsed for anything but shock treatment at first. Occasionally one of these is brought up to the point where operation may be hazarded, and some of them are saved. For the vast majority of cases immediate laparotomy is absolutely indicated. Anti-tetanic serum and salin hypodermoclysis or intra-venoclysis are given while preparation for operation is proceeding. A sufficiently large incision is made to permit thorough and rapid exploration. All the speed consistent with efficient work is essential. All bleeding vessels are clamped and the anaesthetist will soon remark that the pulse is better. Perforations are picked up and covered with gauze till all are found. The intestine is examined throughout for if one be overlooked the patient is almost surely doomed. At this point the simple expedient of keeping the peritoneal cavity filled with warm salt solution while repairing the intestine keeps the patient's condition from sagging. It is often filled again just before closing the peritoneum. Closure of perforations is effected with a fine inverting cat gut suture re-enforced with a seroserosus of Pagenstecherlinen. If the lumen of the gut is too greatly constricted, lateral anastomosis is done between loops above and below the damaged portion. It is much better to repair than to resect if it can be avoided, and it usually can. An omental graft is frequently used where there is extensive local injury. This is almost routinely done in injuries of the transverse colon and flexures.

When working with the stomach it is well to take care of the posterior perforation first, and that, to be sure, through the gastro-colic omentum. Sometimes, however, it is necessary to open the anterior wall of the stomach and close

the posterior perforation from the mucosal side. Yet, again, it may not be possible to find it in reasonable time. If that be true, ignore it, and the patient will probably recover if given nothing by mouth for 48 hours.

Perforation of the duodenum is a problem. We have two cases, both of which died apparently of acute ulcer, one with perforation in two weeks, the other with hemorrhage in three weeks. The latter developed duodenal obstruction after doing nicely for eight days. A posterior gastro-enterostomy was done, after which he again improved quite satisfactorily. When ready to be out of bed he developed a sudden profuse hemorrhage and died in a few hours. Should I have another such case I should feel obliged to do an initial gastro-enterostomy and be strongly tempted to occlude the pylorus.

Wounds of the liver, as has been suggested, usually need little attention. If convenient they may be closed with cat gut suture.

The two injuries to the pancreas were simply drained, but died of shock in a few hours. The extent of injury to the spleen will determine its suture or removal. This is also true of the kidney which we have taken care of transperitoneally since laparotomy must be done anyway. Curiously enough those cases in which the kidney was removed recovered, and those in which it was repaired died. Simple closure was done in the bladder cases.

DRAINAGE

We feel that the question of drainage is of great importance. The old dictum was "When in doubt, drain." That is in process of change to the new dictum, "When in doubt, don't drain." At first every case received a drain, or several of them. Soon it was noticed that some cases showing no evidence of peritonitis developed extensive wound infection beginning at the drain. A few of these developed a severe local peritonitis so late as to make it quite evident that it was not from infection at the time of the operation. Altogether the results were not what we felt they should be, and drainage was felt to be partly to blame. Gradually we began reducing the drainage, until now it is used only where the large intestine has been opened. It seemed hazardous at first to close tightly an abdomen with eight or ten perforations of the small intestine, but the results have fully justified the procedure. We now have several cases of from six to seventeen perforations treated in this way with a very smooth convalescence. And why is this not logical? How completely can one drain the area of potential infection from injuries scattered over from a few inches to a few feet of intestine? Each drain produces a lymph tract about it in a

very few hours effectively preventing general drainage. Drains are foreign bodies and add to the already sufficient burden of the peritoneum. The latter is very resistant to infection and will take care of a reasonable amount.

I believe that injuries of the urinary bladder may safely be treated also with tight closure. The case with 17 perforations of the intestine and two of the bladder received a drain in the cul de sac for 24 hours for the bladder's sake. At no time was there any drainage from this wound. In other bladder injuries even with great and prolonged leakage of urine into the peritoneal cavity we have seen no peritonitis develop.

Even perforations of the transverse colon and the flexures where good pedicled omental grafts could be used have been closed sometimes without drainage and without regret.

It is a positive statement by some that in injuries to the posterior wall of the stomach the lesser peritoneal cavity should always be drained. Here also we must radically disagree.

The postoperative treatment is that accepted for shock and hemorrhage, at first with blood transfusion often playing a life-saving role. This is followed by expectant treatment for peritonitis until it is evident that it will not develop.

Of the complications, peritonitis naturally is the one most to be feared. There were six fairly generalized, with three localized infections. Of these nine, the colon was perforated in seven and in one the duodenum apparently ruptured subacutely several days later. In the other one the terminal ileum was injured. Pneumonia developed four times in upper and once in lower abdominal injury. A rather annoying condition is an enteritis which very frequently occurs in the cases with multiple intestinal perforations. This is seen usually between the fourth and eighth days. It is accompanied by a very slight if any rise in temperature, and the stools are quite foul. We put them on a buttermilk diet for 48 hours and they clear up, either because of it or in spite of it. A late complication to be sure is intestinal obstruction which has caused the return of two cases after several weeks.

SUMMARY

1. In the early stage the location of the wound or wounds is the most important factor. From this or these a tract of suspected injury is immediately projected.

2. Rigidity is slight or absent. Other local signs may not be commensurate with the extent of internal injury, and may lead to delay and the giving of a too favorable prognosis.

3. Immediate operation is demanded in all cases except those in collapse.

4. The reduction of drainage to the minimum will reduce the mortality and the period of convalescence.

NON-TUBERCULAR BRONCHIAL GLAND INFECTIONS IN CHILDREN

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It is my purpose this morning to call attention to a group of cases which, I believe, are rather commonly misunderstood or wrongly diagnosed.

Tubercular infection of the mediastinal glands at the root of the lung is, of course, generally recognized and well described in all our text-books. I think, however, that the frequency of non-tubercular infections as a cause of troublesome symptoms, continuing often for long periods, is not so generally understood, and that these patients are likely to be the victims of a variety of more or less incorrect diagnoses.

It is evident that this group of glands may become infected by any one of the numerous organisms, which at times cause inflammations of the mucous membranes with which they are connected; and that as with glands situated elsewhere, one might expect, according to the character of the invading organism, the duration of the primary infection, and the frequency of its recurrence, all the variations from a brief acute swelling followed by complete retrogression to chronic hyperplasia, or even to suppuration. As a matter of fact, all of these conditions are met with, though the more trivial ones usually go unnoticed and the more severe are often confused with other conditions.

ETIOLOGY

As I have intimated, any one of a variety of infections may be responsible for a bacterial invasion of these glands. In taking case histories, however, it is remarkable how one disease in particular is prominent as the immediate antecedent of trouble in this region. This disease is whooping cough. I believe that a large percentage of all cases of whooping cough are accompanied by bronchial gland swelling, and am certain from my observations that in many of them this swelling persists in chronic form long after the disease itself has subsided; and that to it is due the well known recurrence of the paroxysmal cough with subsequent respiratory infections. Measles, also, seems often to have been the immediate precursor of chronic infections of these glands, and they may become enlarged in the course of broncho-pneumonia or influenza. A num-

ber of cases seem to have had their origin in repeated infections of the upper respiratory passages—"colds" or "sore throats"—extending into the trachea and larger bronchi. This is a type of trouble for which adenoids and tonsils are often removed, and if a chronic gland infection is already present, the results expected from the operation may be disappointingly slow in arriving.

BACTERIOLOGY

Ordinarily the only method of identifying the infecting organism is by examination of the sputum—an unreliable method at best, as the bacteria of the sputum are not necessarily those of the gland tissue, though it is probable that usually the predominant one in the sputum is the important one. It is not easy to get sputum from children, who swallow it rather than cough it out, but it may be obtained by holding the child's head down.

Among the organisms most commonly found are the staphylococci, especially the aureus, various strains of streptococci, pneumococci, and diphteroids. The Friedlander group is said to give rise to especially troublesome chronic infections. Different bacteria may be found together or in different attacks in the same child. An intradermal test with a suspension of killed germs may serve as a means of identifying the offending ones in a mixture.

SYMPTOMS

These may be local and general. The local manifestations are due to irritation of adjoining nerves, and to pressure on the trachea and bronchi, and occasionally on the blood vessels. They are very well described by Holt in his description of tuberculous bronchial glands. The non-tubercular infections do not, however, cause such large gland masses, hence the pressure symptoms are not so prominent.

The nerve irritation results in a cough, teasing and hacking in character as a rule, often paroxysmal and at times much like that of pertussis.

Asthmatic symptoms are very common in these patients, and the relation of enlarged bronchial glands to asthma offers an interesting field for speculation. The asthmatic symptoms have been ascribed to pressure on the bronchi. I am a subscriber to the theory that true asthma is an anaphylactic phenomenon, arising in susceptible subjects, from sensitization to various animal proteins, to pollens, etc., and to the proteins of bacteria. In my experience, practically all sufferers from bacterial asthma have enlarged bronchial glands, and it seems to me logical to think of the condition as a chronic infection of the bronchial mucosa and glands, with exacerbations in which ana-

phylactic phenomena appear in those subjects afflicted with this diathesis.

Certainly, in most cases of bacterial asthma, tuberculous or non-tuberculous, the gland masses are too small to cause definite pressure symptoms. Some of the patients with larger gland masses have constantly moist rales at both cases, and it is not easy to say whether these are due to chronic bronchial inflammation or to retention of secretion in partially blocked portions of the lung.

General symptoms are inconstant. Continued fever is seldom observed, and even during exacerbations the temperature range is likely to be low unless bronchopneumonia appears. Often there is no rise in temperature.

The patients are likely to be somewhat below par physically, to have poor appetites and lack energy, to show a slight secondary anemia, to fail to gain properly, or at times to lose weight. These symptoms are noticed especially in the winter and spring, when exacerbations due to "catching cold" are frequent. The patients often seem perfectly well during the warm dry months.

The ordinary clinical picture, then, is that of a child of any age beyond infancy—most often past the third year—who, following an attack of whooping cough, measles, influenza or bronchopneumonia, or a series of upper respiratory infections, is subject to periodic spasmodic cough, often without fever or the ordinary signs of naso-pharyngeal or bronchial inflammation. Fever, if it occurs, may be transient, or of longer duration if real bronchitis or bronchopneumonia is present. The attacks are most common in the months when "colds" are prevalent, and are likely to follow exposure. The cough is likely to be obstinate, often almost as violent during the paroxysms as true whooping cough, and usually persists for what seems an unduly long period. Some of the children have such frequent recurrences that they are hardly free from cough during the whole winter. These patients lose their appetite, and become pale, "rundown" and anemic.

Individuals with an anaphylactic diathesis are definitely asthmatic during the attacks. In summer they may seem well.

The condition tends, on the whole, to improve with age after about the fifth or sixth year, successive winters being passed with less trouble than the preceding. This seems to be particularly true after removal of foci of infection such as tonsils and adenoids, even when the immediate effect of the operation has not been all that was hoped for.

DIAGNOSIS—PHYSICAL SIGNS

The sign commonly considered the most delicate for the recognition of gland enlarge-

ment in this region is that known as d'Espine's, which, by the way, I think is seldom sought for in accordance with d'Espine's own technic. According to him, the thing to be looked for is a whispering sound following the spoken voice over the vertebrae below the 7th cervical, to which point it is normal. Other men using the same technic believe that this sound is normal in the child as low as the second dorsal. Variations in the technic include the transmission of the tracheal whisper below the second dorsal either over or alongside the spine. Related signs, such as paravertebral dullness, bronchial breathing, bronchophony, etc., indicate greater enlargement, hence are not so early or so delicate. All of these signs, of course, signify nothing more than the presence of solid tissue in the mediastinum, between trachea or bronchi and chest wall, and must be interpreted in connection with other evidence. No study of chest pathology can be considered adequate nowadays without good X-ray plates, and this is particularly true in the type of case which we are considering. The important questions of the size and character of the consolidation can hardly be determined without this evidence; though it is to be said that in very many cases X-ray evidence, with our present knowledge and ability to interpret it, is by no means conclusive. We are still without full knowledge of what are normal X-ray shadows in the chests of infants and young children, and consequently unable to recognize definitely slight departures from the normal. Furthermore, we cannot always distinguish by the X-ray alone between different types of infectious processes, and it is possible that we shall never be able to do so with more than a reasonable probability. In this connection I wish to mention the great advantage of having plates made by lateral as well as anteroposterior exposure. The greater portion of any group of mediastinal glands lies behind the heart and is obscured by it in the antero-posterior exposure so that the lateral view gives often a very different idea, as I shall show.

The history, clinical picture, physical examination and X-ray together should enable us to establish a diagnosis of enlarged mediastinal glands in nearly all cases. As to differentiation of various types of enlargement, the most important thing is evidently to distinguish between tubercular and non tubercular forms. Such a picture as I have tried to describe must arouse at once a suspicion of tuberculosis, and in fact, I think that in most of the cases where the symptoms are important enough to be brought to the physician's attention, this diagnosis is made—at least, tentatively. This, of course, is "playing safe," as the tubercular in-

fection is ordinarily more serious. Some form of tuberculin test should always be made. Most tuberculous patients react to the Pirquet test, except in late stages, and in young children we are not confused by the probability, increasing with age, of the subject having had a previous tubercular infection. This probability is not by any means so great in America as in European centers from which we get most of our statistics on this point. A positive Pirquet test in a young child is very definite evidence—a negative result no more valuable than a single negative Wassermann, for instance. With good grounds for suspicion, a second test should always be made. The intradermal test seems somewhat more reliable, and some clinicians use it always, though the technic is more troublesome. I use it myself if the Pirquet is negative.

Concerning the differences in X-ray plates between tubercular and non-tubercular gland enlargements, I do not feel particularly competent to talk, though I have studied many plates. Areas of definite calcification are usually considered good evidence of tuberculosis, and the typical Ghon tubercle is very convincing; but with plates showing neither of these things, I feel that one can speak with any degree of surety only after weighing carefully all the other evidence, with that of the ray. Some cases will always be doubtful, and the safe thing is to treat them as tuberculous.

There are a few other conditions causing mediastinal tumor which need to be considered in differential diagnosis. Early Hodgkin's disease might cause temporary confusion, but its rapid progress would soon distinguish it. Thymus hyperplasia or tumor might sometimes be thought of, but the symptomatology and X-ray appearances are really very different.

TREATMENT

The close parallel in symptomatology between these cases and those of glandular tuberculosis suggests at once that the general regime of treatment should be the same—namely: good hygiene, fresh air, sunshine, careful feeding, plenty of rest—bed during febrile periods. In particularly troublesome cases the question of change of climate often comes up, and there is no doubt that when it can readily be managed, and a dry, sunny climate is selected, these children are greatly benefited. On the other hand, the parents should not be asked to make too great a sacrifice for this, as the prognosis in general is good at home, though recovery may be slower.

The removal of foci of infection must always be considered. Infected tonsils and adenoids should, I think, always be taken care of, though the parents should not be allowed

to expect that the operation will bring about a rapid cure.

Drugs are useful only in relieving symptoms. Codeine seems to control the cough better than anything else. Iodine seems to me useless. Iron may be needed for the secondary anemia. In the asthmatic subjects atropin, adrenalin, or stramonium inhalations frequently help.

I have considerable faith in the value of vaccine therapy, provided the parents can be persuaded to persist in it for a reasonable time. Stock vaccines are useless. The organism should be cultivated from the sputum obtained as I have mentioned, and it is well to make an intradermal test with the killed suspension. Increasing doses given at five or six day intervals seem often to be of definite help.

The recent developments in deep X-ray therapy seem to promise a very definitely worth while method for use in these, as in other glandular troubles. I have as yet made no trial of the high tension ray with any of these patients, but am convinced of its safety and possible service, and mean to try it in the next suitable case.

THE DIFFICULTY OF EARLY DIAGNOSIS OF TUBERCULOSIS IN INFANCY AND CHILDHOOD

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Of all the difficult tasks that fall to the lot of the pediatrician the one that we do with the most fear and trembling is to tell a parent that their child has tuberculosis in a stage that requires treatment.

In attempting to make a diagnosis we follow a regular routine of ten points:

- (1) History.
- (2) Temperature.
- (3) Sensitiveness.
- (4) Weight.
- (5) Fatigue.
- (6) Rales.
- (7) Spinal dullness.
- (8) Cough.
- (9) Tubercular reaction.
- (10) X-ray.

After subjecting a child to this routine, are we then always able to make a positive diagnosis and tell the parent that the child must have treatment? No. Pathologists tell us that over 90 per cent coming to autopsy by 16 years of age, show tuberculosis in some form. The Immunologist suggests that we let the children have tuberculosis, and start their immunity while there is little else to do, because as adults

the stress of commercial anxiety saps their vitality. The burden of responsibility depletes their energy, which should go to make antibodies. Why not innoculate the children and let them develop immunity early? Well, nature is progressively and naturally accomplishing the inoculation, and if we could hold her in abeyance for the first eight or ten years, then we would not need to fear tuberculosis so much. What is understood by active tuberculosis? Will some one tell us the difference between active and quiescent tuberculosis in childhood? Is there any real quiescent stage? Is there any difference between tuberculosis and other chronic infections common to childhood, such as those found in the nose, throat and teeth? Is there not always a struggle for existence with the vantage swinging from host to invader and vice versa? Can you tell where it crosses the line from one to the other? Can you tell the day when a kitten becomes a cat, or a girl becomes an old maid? Can you tell the day or week or month when so-called active tuberculosis becomes quiescent? But that is just what the family demands to know. There is a common but erroneous impression that tuberculosis in childhood is easy to diagnose. Even the Scientific Press frequently has articles like this, taken from the Medical Record of New York by M. Fishberg, who discusses the diagnosis of pulmonary tuberculosis in children of school age. He believes it exceedingly rare at this age, and that when it does occur it is of the same type as in adults. Moreover, the physical findings and symptoms are practically the same as when the disease occurs in adults. Thus, children with pulmonary tuberculosis have cough, fever, night sweats, tachycardia and emaciation.

It is just this popular, erroneous idea relative to the diagnosis of tuberculosis in children that fosters this paper. I wish to give briefly the ten points used in the routine diagnosis, and show their weakness. We court suggestions from all of you that will strengthen them.

HISTORY

Lamentable carelessness is characteristic of the common average history taking. It is not sufficient to inquire as to the health of the parents, brothers, sisters, servants, all of whom would give prolonged frequent and intimate exposure. The common idea that the exposure must be direct, prolonged and intimate is erroneous. Inquiry should be made as to the aunts, uncles, visitors, to ascertain if they have a chronic cough. Howell states that in Hamburg's Clinic the question arose as to the length of time required to make an exposure. In his clinic, where the children were used almost like laboratory animals, they obtained a three-

year-old child. Exhaustive examinations led them to believe the child was free from tuberculosis. They put this child on the floor in one of the play rooms with two other children with advanced, active pulmonary tuberculosis, and allowed them to play together as children will, for ten minutes. The normal child was put under daily observation and kept in the best surroundings. Inside of 60 days the child developed tuberculosis from this 10-minute exposure, but this experiment corroborates former trials of such character. We have a little Hollander, 5 years of age, who had never had one moment's sickness. The family were all well and lived in immaculate surroundings. An aunt, suffering from open tuberculosis, was sent by her physician from Schenectady, New York, to Cragmore, Colorado. She stopped over night to visit her brother, and during the evening she held this boy on her lap for half an hour. Next day she continued on her way. In five weeks the boy was taken with active tuberculous bronchial adenopathy and was critically ill. We have no proof whatever that the boy contracted tuberculosis from his aunt. But the circumstantial evidence is strong. We could cite many cases from daily histories, that while they do not prove it, yet tend to show that the exposure need not be prolonged, nor need it be direct. Histories show children coming down with tuberculosis after playing on the rugs and floors where tuberculous people have been housed. Children from 2 to 5 years are almost vacuum sweepers. So history of direct contact is not necessary.

A history of milk supply should not be overlooked. Near here a poor man bought a cow because she was cheap. She was a hard looker, but a good milker. The baby, 18 months of age, was given milk from this cow. In one month the baby developed tuberculous meningitis and died. The cow was condemned, posted, and showed that it was completely riddled with tuberculosis. There is no proof that the baby was infected with tuberculosis from this cow's milk, yet it was the only known exposure. Therefore, we emphasize, and go one step further than the National Tuberculosis Association, we search not only for the prolonged, direct, personal contact exposure, but for the short exposure and for the indirect exposure as well.

TEMPERATURE

We hear it said that the child does not have tuberculosis because it has no fever. Here is an opportunity for a slip in technique. Experience shows that mouth temperature in a child under 12 is of little value, and only in exceptional cases can a true reading be recorded. Rectal temperature only should be used, and

then one is surprised to learn that the child has a constant fever or a fluctuating one. But even at that, the fever is no criterion of tuberculosis. Light infection in the nose, throat, tonsils or teeth may produce fever. If, after eliminating all of the other factors which might produce fever, we still have a fever; the fever is no positive evidence of tuberculosis. We may have an active case showing subnormal temperature during the morning and normal at evening. The subnormal temperature is evidence of low vitality, but not necessarily tuberculosis. Temperature should be taken three times a day rectally for 10 days. Constant variations above or below normal show a disturbed organism. It should always be borne in mind that in children the normal temperature, according to the age, is considerably higher than in adults. In some active cases of tuberculosis there may be fever all of the day. In some cases there is a subnormal temperature in the morning, and in others a subnormal temperature all of the time. Therefore, temperature in itself, if it is the only symptom, and is considered singly, is of little diagnostic value.

SENSITIVENESS

Barring the abnormal child, i. e., the child with a distinct neurosis, we find two factors which make a child supersensitive. Such children respond to stimuli to which the normal child is not susceptible. If we bar organic neurosis, the two chief factors which produce such children are (1) diet, and (2) toxin from chronic infections. If the child is allowed to piece whenever it pleases, and keep the bowels overloaded with half digested food, irritating toxins will be absorbed, or if the child is allowed an excess of candy, ice cream, pie, cake, etc., the end product of which is lactic acid, the excessive amount over stimulates and irritates the nervous system, e. g., the bright, alert child, who is usually good in school unless the disease is advanced, who whines and cries at the least provocation, who cannot go to sleep at night, who cannot lie down and rest, but seems to be stimulated and spurred on to constant motion by some unseen force. Such a child is irritable, quick tempered, irascible, peevish, jealous. If the diabetic error is corrected and the nervous balance is not then restored, then local infections should be cleared up. With the high degree of efficiency of our nose and throat, men, this is quickly done. If the child is still irascible, petulant and irritable, we now have at least a presumptive that an active tuberculosis may enter into the etiology. This peculiar stimuli which drives a child's activity like a hyperthyroidism is suggestive, but not pathognomonic of an active tuberculous infection.

WEIGHT

Weight is the next important factor. The country is being swept at the present time by a fad of articles on malnutrition in popular magazines. Doctors, nurses, school teachers, Sunday school teachers, county food demonstrators and what not, are diagnosing everything from mumps to chilblains as malnutrition. Many weight charts are used which do not take the parentage into consideration. You have all heard of the school teacher who was struggling with a Japanese family, trying to make their Jap boy weigh as much as the child of a Scandinavian piano mover who happened to be the same age, and in the same class in school. All malnutrition cases do not have tuberculosis, and all tuberculous cases do not have malnutrition. We have at the present time under our care three children who have an active tuberculosis, but are markedly overweight. Children do not easily lose weight during the early stages of tuberculosis. On the other hand, they fail to make the usual normal growth and associated gain. Here we can expect a faulty diet or chronic infection. With these two conditions corrected, and if there is still no gain in weight, in the presence of the above named symptoms, then we have one more link in our chain of evidence. Let me here recall to your attention that we are only discussing the difficulty of the early diagnosis of tuberculosis. We should be able to diagnose it long before the disease has ravaged the child's body.

FATIGUE

Fatigue is another link in the chain to be considered. A child differs little physically from the animals. The child romps and plays until tired, then rests and is up and at play again. If a child complains of easy fatigue, the cause should be sought. It is well known that a child depends upon its food for its heat, energy and growth. If a child tires easily and fatigues easily, we should first see the source of its energy, viz.: Its diet. When this is properly established and local infections cared for, we may expect normal growth and freedom from fatigue. If they do not follow, we have another link forged in our chain.

RALES

Rales should not be regarded as essential. In fact, if there are rales present, the disease is usually so well advanced that diagnosis is simple. It is conceded that in children 95 to 98 per cent of the tuberculosis of the lungs begins at the glands at the hilum. This always precedes detectable involvement in the parenchyma. If the case comes early, diagnosis should be made without rales. However, when rales are found toward the apices we suspect tuberculosis. If there has been any recent in-

fection, like whooping cough, measles or influenza, then we may expect rales after the acute infection is past. Barring such acute infections, roughly speaking, all crepitant and subcrepitant rales in the lower lobe are regarded as not tuberculous, unless proven so. Also, all rales above the third rib in front and fifth dorsal spine behind are regarded as tuberculous, unless proven otherwise. Intensity, pitch, roughness, are such variable qualities in a young child that they are unreliable. As we increase in age we find it impossible to establish a positive norm, hence, without a definite norm for each age it is very difficult to detect slightly abnormal signs.

SPINAL DULLNESS

Spinal dullness—or d'Espines sign. There has been some difference of opinion as to where the bronchial voice sounds should appear. d'Espires placed it at the first dorsal; others have placed it as low as the third dorsal. We have chosen the latter to be safe. This spinal dullness, or bronchial breath, sounds below the third dorsal vertebrae, indicates that there is some tissue between the trachea and bronchi in front and vertebral column behind which transmits bronchial sounds unchanged. This tissue is ordinarily made up of enlarged tracheo-bronchial lymph nodes. This enlargement may or may not be due to tuberculosis. These glands are usually enlarged following measles, whooping cough, influenza and pneumonia; which enlargement, if there is no secondary infection, usually subsides. Therefore, with d'Espries present, and with acute infections eliminated, we have evidence of bronchial adneopathy, and since bronchial adneopathy is present in 98 per cent of tuberculous infections of the lungs, we have presumptive evidence that the child has a tuberculous infection.

COUGH

If, in the absence of an acute infection, there is a cough which persists for six weeks, it requires investigation. In some cases of bronchial adneopathy pressure produces an explosive, paroxysmal cough. However, during the early stages there may be no cough. Therefore, the absence of cough is not negative evidence, but the presence of a persistent cough, after eliminating the acute infections, should be viewed with suspicion, particularly when associated with some of the aforementioned factors.

TUBERCULIN

The use of diagnostic tuberculin furnishes extremely important evidence. In children's work we have discarded the use of the Moro and Calumette. We use the Von Pirquet as a routine, repeating it at intervals of once a

week for three weeks. However, a negative Von Pirquet reaction does not necessarily indicate negative findings. We may get a negative Von Pirquet in children infected with tuberculosis under the following conditions. Miliary tuberculosis, tubercular meningitis, during measles and in cases of malnutrition. If we get a negative Von Pirquet and are still suspicious of a tuberculous infection we may repeat the Von Pirquet three times, for we have found that in the case of intradermal reactions or the subdermal reacation with the use of tuberculin in milligram doses that the change from a negative to a positive reaction may be due to the sensitization influence of the previous dose. In the case of the Von Pirquet test, however, authorities seem to agree that not enough tuberculin enters the organism to change its allergy. Why a second or a third Von Pirquet should be positive when the previous ones were negative, remains unexplained. In case we have three negative Von Pirquets and have considerable evidence pointing to a tubercular infection, we use the intradermal tuberculin or the subdermal tuberculin. We may use .001 or .01 or 0.1 milligrams, but never a milligram dose, because it is sometimes followed by an alarming reaction. With this intradermal test we get many positive reactions which were repeatedly negative with Von Pirquet.

The interesting question arises as to the significance of these rather frequent latent cases. Are the children whose susceptibility is so slight that they react only to the intradermal test to be regarded as better or less well protected against the disease of tuberculosis? Is mild susceptibility synonymous with marked resistance or only synonymous with slight infection? Granted we get a positive Von Pirquet in a child 6 years of age, what is the significance? Has the child active or so-called quiescent tuberculosis? How shall we interpret it? How shall we conduct the case? What shall we tell the parent? The positive Von Pirquet signifies that some time in the past or present the child has had an active tuberculous lesion. A negative tuberculous reaction is of no value whatever. A positive tuberculous reaction taken singly is of equally no importance, but coupled with characteristic symptoms it adds one more link to our chain of edivence.

X-RAY

Last, but not least, is the very valuable assistance given by the Rontgenologist. The value of his assistance increase in direct ratio to the age of the child. Under 3 years of age, the help of the Rontgenologist is comparatively slight. In one of Holt's series of three

hundred autopsies in children under 6 years of age, all dying of tuberculosis of the lungs, in only three were there any calcareous deposits. Now one of the conditions best shown by the X-ray is the lime deposits. In children old enough, who have had tuberculosis long enough to have a deposition of lime, the X-ray shows clearly.

Many times we have asked makers and interpreters of X-ray to interpret their handiwork. They have pointed to a shadow and said: "This place must be a lime deposit." But I ask, "Has this child tuberculosis?" and they answer, "Well, it has had it, but we do not know whether it has it now or not." They point out the shadows for the enlarged glands of the hilus, they point to shadows suggesting an infiltration of the lymphatics, and then they heave a big sigh and say that no one as yet knows what the normal shadow for a child of 5, 6, 7, 8, 9, or 10 years may be, and until we have a norm established for these ages we will be unable to interpret these skiagrams correctly. So the X-ray, like all the other means, if taken alone, is of little value, but when united with the other evidence it makes a strong chain.

Even after careful, conscientious following of this routine in an attempt to diagnose tuberculosis in children we find many cases concerning which there is grave doubt. Formerly it was taught that tuberculous glands at the hilus of a child's lungs were the source, which leaking later in life allowed a general distribution of the infection throughout the system. Now, it is conceded that a secondary or new infection may occur during adult life, and that it was during an earlier infection that the child was supposed to start the antibody manufacturing process and produce a real, serviceable immunity for later life.

Now the early diagnosis of tuberculosis in infancy and childhood is really a very difficult thing. After considering these ten conditions, history, temperature, sensitiveness, weight, fatigue, rales, spinal dullness, cough, tuberculous reaction and X-ray, we rarely obtain a positive evidence from all of these in a single given case. Therefore, taken singly in early cases, none of them are of much value, but taken as a group, considering at the same time the mental and physical condition under which child life thrives usually, we may be able to make an early positive diagnosis if we both temper and color our findings with common horse sense.

After we have been able to make a diagnosis of tuberculosis, should we worry about the child? No. Our knowledge of the findings is our best protection, for we now know how

to guide the child safely through. The danger lies when the disease is not recognized. Now is it a good thing for the child to have tuberculosis? While we hardly would be willing to inoculate him purposely, on the other hand, if we can protect him until he is old enough so his antibody manufacturing organism is in good trim, there is little danger if we are awake and diagnose the case early, and arrange the child's routine, diet, exercise, schooling and pleasure in such a way that his antibody mechanism will not be inhibited. We hope for the time when investigators will so modify their technique and dosage of tuberculin, or technique of auto-urine test that they will give us information not only as to the absolute presence or absence of tuberculous infection, but also as to the titer of the patient's ability to react. When we become keener in our ability to diagnose these cases early, then we can better advise the parent.

The prognosis depends upon the intelligence and tact of the physician in charge, and intelligence of the mother. The ignorance and indifference and prejudice of the parents must be neutralized by the intelligence of the physician in charge. In other words, the prognosis depends upon our ability to control the patient, provided the diagnosis is made early.

Tuberculosis is an actual condition. It may be a quiescent condition or an acute one and yet cause us no alarm. The tubercle bacillus is not the important thing for consideration. It is the condition of the patient. It is a matter of his toxin tolerance for tubercle bacilli. We must keep the patient within his toxin tolerance, just as we must keep the diabetic within his carbo hydrate tolerance, otherwise we are maltreating the patient.

The cure is usually easily accomplished if undertaken before secondary infection appears. The treatment encounters problems of not only medical, but social and economic aspects. Given a child of 10 years of age with early tuberculosis. How should we conduct the case? Should he be put to bed in the open air on a stuffed diet? This depends entirely upon the given case. Here we must individualize sharply. The first things to be corrected are the conflicting or secondary factors that will retard recovery. For example, carious teeth, septic tonsils and adenoids, pyelitis, etc. All of these must be carefully corrected first. Fever is an important factor to be determined, but not indispensable. Figuratively speaking, fever may be considered as merely the smoke of battle. Its presence at some time during the day is evidence of shooting, that is, the antibody mechanism is active. The evidence furnished by the pulse is not of

the same value as in adult tuberculosis where the toxins from the secondary infections invariably accelerate the pulse more.

Two factors which are of cardinal importance and must be considered before outlining our treatment, are:

- (1) The condition of the appetite.
- (2) Fatigue.

We are discussing early cases with positive findings. The loss of appetite and the ease of fatigue are both evidences of a common source. It is an over balance of the toxins from the invader over the defense of the host. Now in studying the multitude of signs and symptoms which arise in these patients, care must be taken that we do not stand so close to the trees that we cannot see the woods. While the details are essential, yet it is necessary to stand off and look at our patient and see him as a whole. We must see him as a host in his relation to the invader. This having tuberculosis is a relative thing in childhood, practically all children having it in different degrees. The thing for us to determine is not, has this child tuberculosis, but we want to know just what his relation to the invading organism is. Is this battle a fifty-fifty proposition, or is it forty for the invader and sixty for the host, or twenty-five for the invader and seventy-five for the host, or is it seventy-five for the invader and twenty-five for the host? Before we can treat a child intelligently it is necessary to determine this ratio, and I think you will agree that sometimes superhuman intelligence and skill are required, which means that many times we must say, "I don't know."

Very often we discover a child, when in search for something else, that must have had tuberculosis for years. These children have been active and normal in every way, and no one realized that the child had been waging a successful battle with tuberculosis for years. Undoubtedly there are thousands of these who have been infected early and carried an active infection for no one knows how many years, and cured themselves without it ever having been discovered that they had tuberculosis until afterwards.

Given a boy 12 years of age with active tuberculosis. Shall we take him out of school, put him to bed in the open air with a full diet? Here the social and economic phase is encountered. To remove that boy from school for from six months to one year means a failure for him to pass. This boy must be entirely freed from stress and worry about his school in order that he may convalesce rapidly. Just as it is necessary for a business man confined to a tuberculous sanitarium to have his mind entirely relieved from the stress of commer-

cial anxiety. This boy loses interest in his education and he will return to school next year very unwillingly in a class of smaller children. Here we may produce an entering wedge for delinquency later. The sooner the boy gets through school, the sooner he will be a wage earner, and for some boys to be out of school a year needlessly is a real economic problem.

We must individualize and know that boy's relation to his infection. If he is playing a seventy-five to twenty-five game, let him continue in school as he is. If he is playing a fifty-fifty game, let him stay in school, but eliminate all athletics from his curriculum, and have him maintain a rest period while the other children are engaged in athletics, or it may be necessary for him to drop one study, but by all means keep him in school if possible. There is no reason in the world why he should not continue in school and cure himself of tuberculosis at the same time. It should be taken into consideration in appointing his curriculum that he has an active tuberculous study to carry. If the boy is waging a losing battle he should be removed from school and put to bed in the open air, with a free diet until the margin is in his favor. In the not distant future all cities will have more open air schools to care for this type of child.

It seems to me that the securing of immunity to tuberculosis is part of a child's education and can be carried right along with his other studies, but we must not forget to count it as one of his regular studies and relieve him of some other study so that he may not overdo.

We are not certain but what the immunity of the race against tuberculosis depends upon the length of time that the race has suffered with tuberculosis. It is known that the Hebrew, whose race suffered for 3,000 years, now has the best immunity of all races. It is known that the Italian, whose race has suffered for over 1,000 years, has a relatively splendid immunity. Some of our extreme northern and southern Indians as a race have struggled with tuberculosis for 400 years, while the Eskimo of the north have been building their immunity for only 100 years. In the light of the biologists' findings we are safe in concluding that the Hebrew has 3,000 years' worth of immunity back of his race, the Italian, 1,000 years' worth, the Indians of the north and south, 400 years, and the Eskimo nearly 100 years' worth.

It has been shown that the inoculation of toxin antitoxin into pregnant guinea pigs produces an immunity in the offspring. It is common practice among the farmers of Sweden to choose for breeding purposes from among their cows only those that have had tuberculosis, be-

cause they have found out by common practice that these prove to be the hardiest cattle. This process is known among biologists as parallel induction, they being careful to avoid the use of the word inheritance.

As long as all post mortems show tuberculosis to be universal, why not look upon it as perquisite of adult life and consider it an achievement to be attained. Certainly not to be viewed as a disgrace or as a plague, but as an enemy to be conquered in our struggle for existence.

The average child starts to school at eight bells, and with one hour at noon, is excused at four o'clock, excepting for two short recesses. He is required to take two or three studies home to pursue at night. He must have some athletics after school, or spend an hour at his music lesson. Twice during the week he must take dancing lessons. Sunday school on Sunday. Once a month he has to learn a piece to speak before the school. Class plays keep him up one or two nights a week toward the close of each term. The whole procedure may be summed up in one word, strain, strain. No wonder their nervous systems crack and the school children are ravaged with disease. If we can diagnose these early cases of tuberculosis before the child is seriously affected we can take the mother aside and say, "Yes, it is advisable that your child take some athletics at school to help build up his physique; the mental stimulation of the school is essential to develop his intelligence; the dancing, music lessons and public speaking prepare him for association with his fellows. But you had better have him take six years to his course instead of four, while all of this development is progressing. He has an active tuberculosis and his antibody must be developed. This requires years, no one knows how long, therefore, relieve him from the stress, strain and worry." Let us correct this school policy of trying to make all children cover a fixed course in the same number of years. God give us less brains and more common horse sense in the general management of the child's routine and we need not fear the ravages of the Great White Plague.

DISCUSSION ON PAPER OF BLISS AND COOLEY

DR. J. J. LARNED, (Grand Rapids): I think the thing to be emphasized in a discussion of tuberculosis is the necessity of consideration of all of the different points which Dr. Bliss spoke of. There is one other point which I sometimes consider almost as important as some of those enumerated in the list, and that is the question of a low leucocyte count, which I think sometimes adds to the picture. In a question of tuberculosis, a more distinct line should be drawn between tuberculosis of young and older children, tuberculosis being such a seri-

ous trouble in babies and not nearly so serious or fatal in older children. So far as treatment of the older children is concerned, this has been well covered. We cannot lay too much stress on the question of nutrition. These older children can be made to gain in weight, and usually take care of the infection well.

DR. D. J. LEVY, (Detroit): There is a great tendency among us to regard respiratory infection that has gone beyond the acute stage as tuberculosis, particularly when it is accompanied by the symptom of adenitis, and Dr. Cooley has performed a service in differentiating between a very common clinical condition and the distinct entity of tubercular bronchial adenitis. We all fear the possible tuberculous character of the described conditions, and it is reassuring to have a man of Dr. Cooley's marked clinical ability assure us that many of the cases at least that he has shown us had no tuberculosis, and point out their actual character. It is a mistake to assume that all cough is necessarily due to definite parenchymal infection. That cough may be the result of a reflex, or a direct nervous irritation. A branch of the recurrent laryngeal nerve is involved in the mass, which often produces a cough pertussis-like in character. As Dr. Bliss has pointed out, glandular swelling may persist for a long time, giving rise to symptoms which indicate that the condition is due to involvement of this branch of the bronchial mass.

I want to add one thing to the interpretation of Jespines' sign, and that is the quality of the transmitted sound. There is often a nasal quality added to the whispered voice sign. This may occur where there is a definite tuberculous involvement and where the mass is large enough to produce a compression.

From interpretation of the X-ray pictures which have been shown by Dr. Cooley, it seems to me there is X-ray evidence which confirms the absence of a tuberculous condition; that is, the pyramidal or triangular shaped shadow extending out from the base; that is conspicuously lacking in Dr. Cooley's cases and tends to define them as being non-tuberculous.

I want to add one word to the therapy of the condition as described, and that is the use of the old-fashioned remedy, creosote. Following treatment with cerosotē in these conditions we find an improved appetite with resultant improved nutrition, which gives a decided indication for the use of this agent.

DR. J. ROSENTHAL, (Detroit): A point that Dr. Cooley did not mention is the tuberculin tests. One test that I personally have urged recently is in securing a positive reaction where the negative appeared before. That is accomplished by using the bovine tuberculin as well as the human. I have in mind two cases in which all human tuberculin tests have been negative, and a positive reaction to bovine tuberculin has developed.

DR. J. W. TOAN, (Howell): I am not a pediatrician, but have been very much interested in these two papers because we have been associated with tuberculosis and know how difficult it is to diagnose tuberculosis in children. We have been very fortunate in having these two papers read together, for they bring out some of the problems that we have to contend with.

I was very much interested in Dr. Bliss' paper, and especially in his emphasis of the necessity of utilizing all of the facilities that we have at hand in making the diagnosis of tuberculosis in children. We are frequently called upon by the laity especially, and occasionally by physicians, to go over a child and tell directly whether that child is tuberculous or non-tuberculous, and, as you all know, that

is almost an impossibility without having an opportunity of keeping the child under observation for some little time and utilizing all of the diagnostic methods at our command, and then sometimes we are puzzled to know whether we have a tuberculous infection or some other infection.

DR. COATES: I want to speak very briefly of the enlarged gland. A year ago a similar question was brought up in the public health section and I spoke on a few preliminary observations I had made during the preceding year, and it is a point on which I would like the opinion of Dr. Cooley and also of any other member present.

During the past year I have had occasion to run over some 500 school children scattered through a country school district at my home. We have had clinics for children under school age and above school age. In addition to the usual underweight condition there was evidence of malnutrition. And the condition I want to call particular attention to is this: The marked predominance of the anterior and posterior cervical lymph glands in association with hundreds of cases of so-called malnutrition. And also, in a large proportion of these cases the glands of the left side are more prominent than those on the right, I would say almost two to one. In many of the cases the chains stand out anteriorly and posteriorly clear down to the tip of the clavicle. Some of the children are 5, 10, 15 per cent under weight. Another observation: If in these cases we have opportunity to observe the individuals in after years, we will find that in many of them the enlarged glands subside, in some they do not. Many of them are doubtless tubercular.

The point I want an opinion on is this: In the large percentage of these cases the primary defect is one of malnutrition, and of course, along with that go the streptococcus hemolyticus and all the other infections the infant and young child pick up, because, as some one has aptly said, children make themselves a vacuum sweeper on the floor. Then again, what is the relationship between the development of tuberculosis and the very prominent condition of the anterior and posterior cervical glands, and, of course, with that the usual tonsil and adenoid symptoms?

DR. BLISS, (closing): I wish to ask Dr. Cooley a question: The four cases which he showed on the screen looked like calcareous deposits in the lung. Is there any condition other than tuberculosis in which there are lime deposits in the lung that can be demonstrated by the X-ray? If so, will he name those conditions which produce an actual calcareous deposit that may be shown by the X-ray, besides tuberculosis?

As to the question Dr. Larned brought up in connection with the leucocyte count, this should be included, particularly in children, where you have eliminated the acute infections and still find the leucopenia is more than presumptive evidence.

In regard to bovine tuberculin causing positive reactions when the human tuberculin will not do so, I have had the same result as that mentioned by Dr. Rosenthal; a certain percentage escape positive reactions with human tuberculin.

Answering the question as to what percentage of children have tuberculosis, the statistics vary in different parts of the country.

DR. COOLEY (closing): The d'Espine's sign is not a question of the whispered voice at all, but of a curious whispering echo heard over the spine following the spoken word. There are rather striking differences, of course, in the whispering voice and the spoken voice, the character of resonance, etc., in varying degrees in gland enlargement. But d'Espine's sign relates to the spoken voice with the whispering echo that follows it. And that is

all this term should be applied to if one is going to use it at all. I rather doubt whether it is a good term to use, but that is the definition given it.

As to the number of these children with cervical gland enlargements who are tubercular, as I remember the statistics on this subject as we find children with cervical gland enlargements in school examinations, not more than 10 per cent of them really become tuberculous, and most of those gland infections are, of course, the result of tonsil and adenoid infection and clear up later on, just as the mediastinal glands do. Whether nutrition comes first or the infection comes first one cannot say. Sometimes it is one and sometimes the other.

Answering Dr. Bliss' question as to whether calcareous deposits occur as the result of non-tuberculous infection, it is rather assumed that those calcareous deposits indicate tuberculosis. One does not see why that should necessarily be true, and as a matter of fact we still have a lot of differences of opinion left as to what the X-ray shadow means and why, and we shall have to study many cases to decide this.

DIAGNOSTIC VALUE OF ARTIFICIAL PNEUMOPERITONEUM IN STERILITY IN WOMEN*

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Sturmdorf states that:

"Physiologically every woman who menstruates, ovulates. Biologically, ovulation predicates potential fecundity. Ovulation, fertilization, and nidation constitute the chronological cycle of conception, and any perversion in their normal concurrence determines sterility."

Fecundity of the female requires primarily an ovum and a spermatozoon. The absence of either, or the unfitness of the female organism to bring about a normal development of the fertilized ovum, leads to sterility. The organs which produce the ova and the sperm, as well as the organs which enable a proper meeting, and a proper development, must be considered in seeking the cause of sterility.

The male generative organs are more accessible to examination than the female; the semen is readily evacuated and can without difficulty be examined as to its motility, etc. Absence of spermatozoa or sluggish motility will suggest to us that the cause of sterility lies in the male. If the semen appears normal we should make a thorough search for the cause of sterility in the female.

There is no specific ejaculate in the female. Unfortunately, the ovum cannot be captured and studied at will. Menstruation is not an index of ovulation. Many women become pregnant during lactation, and under certain pathological conditions in the absence of menstruation well formed corpora lutea are found. However, there are two indices of the function of the ovary; the examination of the vaginal secretion and the interpretation of the histolo-

*Read at Annual Meeting, M. S. M. S., Flint, June, 1922.

gical picture of the abraded endometrium. We believe that the normal vaginal flora and the normal histology of the abraded endometrium are determined by proper ovarian function. These being normal, the cause of sterility lies in the other organs of reproduction.

We have long known definitely many of the causes of female sterility, and have been able to correct some, thus making possible a normal pregnancy in a hitherto sterile woman. In any large group of such cases, however, there has always been a certain class, in which, with all the methods at our command, no positive diagnosis could be made, and in which no relief could be offered. Recently, a new diagnostic method has been developed in gynecology which enables us to reduce the number of those cases previously diagnosed as "sterile from cause unknown."

I have classified a series of about two hundred cases of sterility in the female, a series consisting of cases either from my own private practice or from clinics with which I have been connected, and covering the period 1900 to 1921. Examining into the histories of these cases I have further classified the causes of this sterility in the following table:

| | |
|----------------------------------|------|
| 1. Endocervicitis | 25% |
| 2. Diseased Adnexa | 15% |
| 3. Retroflexion of Uterus | 10% |
| 4. Tear of Perineum | 6% |
| 5. Stenosis of Os. Extern. | 6% |
| 6. Pin-hole Os. | 5% |
| 7. Cervical Flexion | 5% |
| 8. Myoma | 3% |
| 9. Conical Cervix | 2% |
| 10. Atresia Vagina | 2% |
| 11. Relaxed Vaginal Outlet | 2% |
| 12. Colpitis | 1% |
| 13. Carcinoma of Uterus | 1% |
| 14. Cause not determined | 17% |
| | 100% |

In this table we see that in 17 per cent of the cases the cause could not be determined. The women of this last group all had a history of normal menstruation which usually means normal ovulation which in turn predicates the possibility of fertilization.

I have selected a case to demonstrate the possibility of making, by the new method, a definite diagnosis in the majority of the cases, and with a diagnosis the possibility of correction of some of that group of cases of sterility hitherto classified as of unknown etiology. In the discussion of this case I have reviewed the routine examination followed in a woman presenting herself for the relief of sterility.

This case was that of a young, well developed woman, age 29, who had been married nine years and had never been pregnant. She was very desirous of having a child, which desire had become a mania with her. Her menstruation began at the age of 13, and was al-

ways regular and normal in time and amount. She had never experienced menstrual pain before marriage. About two months after marriage she was attacked by pain, first in the right lower quadrant, and two days later on the left. This was accompanied by fever and vomiting. The attending physician diagnosed acute catarrhal appendicitis. An ice bag to the lower abdomen, and diet restrictions constituted the treatment and brought about an apparent cure. Otherwise there was nothing important in her family or previous history.

EXAMINATION

The general physical examination revealed the heart, lungs, kidneys, bladder and enteric tract in perfect condition.

GYNECOLOGICAL EXAMINATION

The Vulva, which has the task of retaining the semen by closing the labia majora and minora after coitus, was normal. There was no elephantiasis, fibroma, adhesions, scars, or kraurosis, any one of which might cause sterility.

The Introitus Vaginae, which has practically the same duty to perform as the vulva, showed no atresia of the hymen. There was no vaginismus. The perineum was intact.

The Vagina has the task to keep a sufficient quantity of the semen in close proximity to the portio and to maintain the vitality of the spermatozoa until they enter the cervical canal. Any abnormality of these functions will interfere with conception. But in this case there was no pathology of the vagina. There were no cysts, nor fibromata of the vagina or the cul-de-sac of Douglas. The vagina was neither infantile nor too large. The mucous membrane was not inflamed, the secretion was acid, and glycogen was demonstrated in the vaginal epithelium.

The protective power of the vagina depends upon the grampositive vaginal bacillus (*Bacillus acidophilus*). The propagation of this important bacillus depends upon the acid reaction of the vaginal secretion and upon the polysaccharide, glycogen, which is formed in the vaginal epithelium and serves as the best culture medium. In pathological conditions of the vagina, or in dry function of the ovary as in menopause or infantilism, we always find an alkaline reaction of the secretion, a gram-negative bacillus, and no glycogen present in the vaginal epithelium. The reaction we determine by litmus. The glycogen is nicely demonstrated by staining a small section of normal vaginal mucosa with Best's* Carmine stain. In the upper as well as in the basal cell layers of the epithelium a deposit of scales of glycogen is noticed. At the free margin brilliantly red stained glycogen flakes are seen. The cellform can easily be demonstrated, but

the cellstructure, the cellmembrane and the cellnucleus are all destroyed. It is easily explained how by desquamation of the upper epithelial cell layer the glycogen reaches the vaginal vault causing a lactic acid fermentation and an acid reaction of the vaginal secretion.

*BEST'S CARMINE STAIN

Fix tissues in alcohol only. Imbed in celloidin which prevents the glycogen from dissolving in water. Paraffin and frozen sections should not be used.

STOCK CARMINE SOLUTION

| | |
|---|---------|
| Carmine | 2.0 |
| Potassium carbonate | 1.0 |
| Potassium chloride (KCL)..... | 5.0 |
| Aqua dest. | 60.0 cc |
| Boil gently and cautiously for several minutes, after cooling add Liquor ammon. caust. | 60.0 cc |

In tightly stoppered bottle this solution will keep and can be used for two months in winter and three weeks in summer.

STAINING METHOD

1. Stain sections deeply with alum hematoxylin.
2. Decolorize with acid alcohol, if necessary.
3. Wash thoroughly in running water.
4. Stain sections for five minutes in the following solution:

| | |
|--|----------|
| The above carmin freshly filtered..... | 2.0 cc |
| Liquor ammon. caust. | 3.0 cc |
| Methyl alcohol | 3.0 cc |
| 5. Differential in— | |
| Alcohol absol. | 80.0 cc |
| Methyl alcohol | 40.0 cc |
| Aqua dest. | 100.0 cc |

From three to five minutes, changing the fluid occasionally until it remains uncolored.

6. Wash off in 80% alcohol.
7. Alcohol, oil balsam.
- Glycogen red, nuclei blue.

The Portio Vaginalis serves the purpose in the act of conception of facilitating the ingress of the spermatozoa into the uterus by being immersed in the ejaculate. The normal position of the external os should be posterior-inferior. Any lateral or anterior deviation, as we find in retro- or lateral deviations of the uterus will often be the cause of sterility, as will stenosis or hypertrophy of the external os. We could detect no abnormality in this case.

The Cervix is the most important part of the uterus. In a previous paper I pointed out that stenosis, the conical cervix, cervical flexion, pinhole os, or polypi, are usually due to infection and not to malformation. Sturmdorf is right in stating that an os that offers sufficient egress for millions of bloodcells during every menstruation will readily afford ingress to a spermatozoon whose diameter measures less than that of a single red corpuscle. The most prevalent and most familiar pathologic manifestation in the cervix is chronic endo-

cervicitis. Physiologically, the cervical canal presents nothing more than a passive communicating channel between the vagina and the uterine cavity proper. The mucosa is composed of deeply penetrating mucus-secreting racemose glands. The cervical mucosa is very susceptible to infection, which once infected, will not recover unless the endocervix, containing the racemose glands, is completely removed by the Tracheloplasty operation.

Regarding the direct spermatocidal effect of a diseased cervical mucosa Reynolds states: "It is extremely interesting to see how actively mobile spermatozoa, aspirated from the cervical cavity, progress across the field of the microscope in the cervical secretion of grossly normal appearance, until they come in contact with clumps of pus-cells, with which the tail of the spermatozoon becomes entangled. The result then is, that it indulges in futile struggles to escape, by the violence of which it becomes exhausted, and in a few minutes gives up the struggle and lies still." In our case we find a typical chronic endocervicitis, and, as it was later revealed, of gonorrhreal origin.

Corpus Uteri: Its specific function is to take part in menstruation, deciduation and gestation. The corporeal endometrium is practically immune to ascending surface infection from the endocervix. Any impairment of uterine, tubal or ovarian function, is due to a chronic ascending lymphangitis traveling from the racemose glands of the endocervix along the periuterine and periadnexal lymphatics.

In the process of conception the spermatozoa normally meet the ovum in the tube and cause impregnation. The impregnated ovum, by reason of a proteolytic ferment (probably) digests its way into the uterine mucosa preparing its own bed for further development. The uterus was examined as to its development, (rudimentary uterus, uterus bicornis, infantile uterus) as to its position (ante and retroflexion, ante and retroversion) and for the presence of neoplasms (myoma, submucous, interstitial or subserous). The uterus was found to be normal.

Fallopian Tubes: Next to the endocervix the tubes are the most frequent seat of disease in sterile women. About 15 per cent of female sterility is due to tubal disease or closed tubes. Unless there was present a greatly thickened tube or a hydro- or pyosalpinx or retention tumor we formerly were at a loss. It was impossible to determine the patency or non-patency of the tube unless we opened the abdomen, and then only by probing and injecting air through the fimbriated end. There might be present a small polyp blocking the uterine insertion of the tubes, occlusion by an

inflammatory process or some malformation, within the tube lumen, none of which could be detected by palpation.

Rubin, Peterson, and Van Zwaluwenburg have recently perfected a safe and sure method of determining the patency or non-patency of the fallopian tubes by means of the transuterine gas inflation. Rubin uses oxygen while Peterson prefers carbon dioxide. The latter is absorbed very rapidly in 15 to 20 minutes after the inflation has been completed. I follow Peterson's method in every detail, and have obtained the most gratifying results. The technique is very simple. The patient is placed in the Sim's position. The cervix, previously thoroughly sterilized with iodine, is grasped with a tenaculum and a sterile uterine canula is inserted into the uterus. The gas is passed slowly into the uterus under a pressure of 150 to 200 millimeters of water. A few excursions of the level of liquid in the siphon meter will determine whether the tubes are permeable. The attached manometer will rise quickly to 200 millimeters with tubes which are not patent. This pressure may be maintained for a minute. If the pressure does not fall in that time to 40 or 60 millimeters the canula is withdrawn and the transperitoneal route is chosen, if not otherwise contraindicated. If the gas passes freely through the fallopian tubes, the inflation is continued until 500 to 1,000 cubic centimeters enter the pelvis. The site of election for the transperitoneal inflation is about 3 cm. below the navel and through the center of the right or left rectus muscle. The solidity of the muscle at this site insures a good closure after the withdrawal of the needle. Under local anesthesia a spinal puncture needle is passed through the muscle. When it reaches the posterior sheath of the rectus, which is determined by increased resistance, the needle is connected with the apparatus, pushed through the fascia and peritoneum and about 1,000 c.c. of gas is injected under a pressure of 200 m.m. of water. After withdrawing the needle the patient is turned over face downward, a board inclined at an angle of 28 degrees with the plane of the table placed beneath the thighs, the table is tipped as for the Trenelenburg position, and an X-ray taken. Double intensifying screens and stereo set are usually employed.

CONTRA-INDICATION

The uterus should not be insufflated in the presence of a purulent discharge from the cervix, during an acute inflammatory pelvic condition, during menstruation or uterine bleeding, nor in patients beyond the menopause. Transperitoneal insufflation is contra-indicated in severe inflammatory manifestations of the abdominal organs.

In the case under discussion both tubes were occluded, and the transperitoneal route was selected. We find, as you see on the X-ray films, the following conditions:

The right pelvic pouch is filled with gas only. The left pouch contains adhesions. The bladder is visible. The optical cross section of the isthmus and fundus of the uterus is clearly visible. The narrow linear shadow of the right broad ligament is clearly seen spreading out and becoming lost in the pelvic wall. The left broad ligament is not so clear, indicating that the uterus is displaced to the left. On the posterior surface of the right broad ligament shadow we see the tortuous shadow of the tube. On the left we note a tortuous tube ending in a pear shaped shadow. The right ovary is not recognized and is assumed to be normal. The left ovary shows a large shadow close to the uterus which may be recognized as an ovarian cyst. On bi-manual examination we diagnosed an old inflammatory process in the left pelvic pouch and could make out neither tube nor ovary. The final diagnosis after performance of pneumoperitoneum was occlusion of both tubes, left ovarian cyst, and chronic endocervicitis.

1. Operation: July 6th, 1921. Tracheloplasty (Sturmdorf).

1. Complete enucleation of the entire endocervical mucosa, from external to internal os, with preservation of its muscular structure.
2. Accurate relining of the denuded cervical canal by a cylindrical cuff of vaginal sheath of the cervix.

2. Operation: July 16th, 1921.

Laparatomy—Salpingostomatology and Ophorotomy.

1. Abdomen opened in usual manner. The appendix was found to be normal. Both tubes were surrounded by adhesions, especially the left. The right ovary had a small retention cyst, while the left showed a retention cyst the size of a large walnut. Both ovarian cysts were removed by excising the cyst wall with the exception of a free hanging margin around the ovary. This margin was turned outside and sewed to the healthy ovarian tissue with a No. 100 plain catgut. The pinkish gray base of the cyst was outside, forming a part of the covering of the ovary. The tubes were separated from the adhesions, they were split open by a long incision and the mucosa was sutured to the peritoneal coat. The ovaries were fixed close to the opening of the fallopian tubes.

The abdomen was closed by the usual

method. The patient made an uneventful recovery.

September 19th, 1921, the tubes were again examined as to patency and found that the carbon dioxide entered the abdomen by the transuterine route without any hindrance.

October 4th, 1921. The patient showed all signs and symptoms of pregnancy.

During the patient's stay in the hospital the husband was examined by a competent Genito-urinary specialist, who pronounced him well in every respect.

CONCLUSION

(1) In sterility of the woman we should undertake a routine and thorough examination of the organs of reproduction in the male as well as in the female and try to find the cause of sterility.

(2) The patency or non-patency of the fallopian tubes can only be determined, without a surgical exploration, by the inflation with gas by the transuterine route.

(3) Pneumoperitoneum is free from danger if we are careful in the selection of cases.

(4) Roentgenograms of the Pneumoperitoneum are valuable aids in demonstrating the condition of the uterus, tubes and ovaries, the presence of omental and bowel adhesions, pregnancy, etc.

(5) The use of carbon dioxide instead of oxygen diminishes the discomforts following the inflation and the patient is able to leave the office in 30 minutes.

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PARALYSIS AGITANS*

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In medical literature, even as far back as Galen, there is mention of various forms of tremors and involuntary movements. Sylvius de la Boe was able to differentiate between passive and intension tremor. Gaubious, in 1751, mentioned festination in connection with these tremors; but it remained for Parkinson to give us a description which has served as a model for all subsequent writers upon this subject and as a monument to the careful and accurate observations of the clinicians of what we may call the pre-laboratory days, when men relied upon their judgment, intellect and experience, rather than upon more or less abstract laboratory findings to form their conclusions. Although Parkinson had no idea of the real pathology of the condition, in his paper of 1817 he described with great accuracy a large group of clinical manifestations which we have since separated into smaller groups as our knowledge of the neuropathology has progressed. We are indebted, especially, to S. Kinnier Wilson and J. Ramsay Hunt for our present conception of the subject. Although Charcot differentiated multiple sclerosis and Germain See some of the choreas of this group, I feel that Westphall and Strümpell's work on their so-called pseudo-sclerosis, while it may have added to already rich clinical description, tended to cloud our conception of the pathology. Then we had C. Voight's syndrome of the corpus striatum; Oppenheim's dystonia musculorum; Huntington's chorea with progressive dementia; Bechterow's hemitonia apoplectia and Spiller's family form of pseudo-sclerosis. Manschott, Mendel and Zingerle added further to our knowledge and helped to lift these conditions out of the category of so-called functional diseases.

ETIOLOGY

First, among the causes offered are senility, usually begins between 50 and 70 years of age. Although it has been noted as early as 10 years and cases have been recorded in which the disease appeared as early as 3 years, these cases, however, can scarcely be looked upon as pure paralysis agitans. It appears to have

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a peculiar selectivity for the white race. Changes in the circulatory system seem to have a causal relation. Heredity, or at least a familial tendency, in this condition as in Wilson's disease, seems probable. A number of cases with two or more members of the same family have been recorded by competent observers. Undoubtedly there is a relation between this condition and the glands of internal secretion. In my own experience I have invariably been able to demonstrate involvement of the thyroid, parathyroid or suparenals. Just what this relation is I have been unable to determine. It is so constant that it is more than mere coincidence; but whether it is cause or effect cannot be stated at this time. The autonomic nervous system is also involved as shown by vasomotor, secretory or nutritional disturbances. Emotional disturbances and shock were formerly held to be accountable as etiological factors, but in the light of our present knowledge, I believe this to be very doubtful, and if they did play a role paralysis agitans would be much more frequent than it is. While any of these conditions may act as a precipitating cause, adding the additional stress that is too much to bear, it would appear they have no other etiological relation and may be entirely incidental. Trauma, unless the basal ganglia are actually involved, can scarcely bear a closer relation. In one case of mine with an accompanying hyperostosis cranii and mushrooming of the cranium on to the vertebrae, pressure on the basal ganglia may have played an etiological role.

Photographs of this case I will present later. In all probability the various tremors that were so numerous during the war were not actually due to the physical and emotional hardships incident thereto, but these factors simply uncovered the latent conditions which would have eventually manifested themselves when the circumstances became favorable. That these conditions were usually relegated to the group of so-called functional diseases or hysterias does not by any means eliminate them from the group we are now considering, as I believe it is thoroughly possible for transitory organic involvement to occur which may be circulatory in nature and eventually clear up and leave little or no residue, and there now has accumulated some evidence from autopsies which would seem to substantiate this view. Conditions bringing on premature arterio sclerosis probably have a causal relation, and this relation, of course, depends entirely on the physiology of the centers supplied by the involved vessels. A key to the etiology of this disease and possibly some

other obscure conditions of the nervous system, such as disseminated sclerosis, has probably been furnished to us by our recent pathological studies of epidemic encephalitis which has been so prevalent the last few years and which so frequently leaves a residue of Parkinsonian symptoms.

The condition is insidious in its onset and development, as a rule, although so-called fulminating cases occasionally occur, especially among the young. The most usual prodromal symptoms are indefinite pains in various parts of the body, especially the upper extremities. These pains seem to usher in the disease and disappear after the onset of the motor phenomenon. Parasthesias and various psychic thermal disturbances are sometimes complained of. Occasional gastro-intestinal disturbances are present, but asthenia is an almost invariable early symptom, although it varies greatly from day to day. The ordinary trend of symptoms complained of in so-called neurasthenics are usually present throughout the disease. Anxiety, palpitation, vertigo, sense of constriction in the head. When the disease is well established the more classical symptoms ensue. These are sensory, motor, vasomotor, secretory, trophic and psychic; increased tonus with rigidity, which should be carefully distinguished from spasticity; the reflexes never more than slightly increased, much more frequently normal or decreased; characteristic expressionless face; tremors of constant amplitude, usually passive in kind, temporarily arrested by attention, sometimes strong emotion causes disappearance for a long time (I have such a case under my care now), other cases aggravated by such an emotion, physical shock may completely change patient's condition either for better or worse, usually the latter, increased by more than slight exertion; propulsive, latropulsive and retropulsive movements are common. As the condition progresses still further the rigidity usually increases and contractures may occur, although there are cases that run their entire prolonged course without either tremor, rigidity or contractures, respectively. The rigidity causes the individual to move in mass. The woodeny face, the forward attitude of the body and the peculiar position of the hand midway between pronation and supination form a picture, once seen, is never forgotten. One of the most striking features of this disease is the great variability of the intensity of the symptoms from day to day or hour to hour, without any apparent reason, showing a distinct *psychic component*. Although the general trend is always downward, it does not seem to appreciably shorten life. One case, a physician that came under

my observation, had the disease for nearly 40 years and was still ambulatory. Another, bed-ridden case with extreme rigidity and emaciation, survived for more than 15 years after complete paralysis ensued. Dysphagia, dysarthria and sialorrhea are sometimes distressing symptoms. Ptosis due to the muscular rigidity frequently occurs, giving the patient much trouble; rigidity of the ocular muscles interferes with the ordinary movements of the eyes, even causing sluggishness of the pupillary reflex. While I am familiar with the very elaborate and interesting work of Dr. Hugo Spatz and of Tretiakoff, Foix and Souque, and although their conclusions have caused some confusion in the minds of those who have not gone thoroughly into the subject, in reality their work is confirmatory of my main thesis; the extra-pyramidal nature of the syndrome group of which *paralysis agitans* is a member. Last summer I had the pleasure and privilege of a long discussion on this subject with Pierre Janet of the University of Paris, and he is thoroughly in accord with my views and states they are held by the leading French neurologists. The corpus striatum proper, namely: The caudate and lenticular nucleus, the substantia nigra and subthalamus are all so intimately related in their influence upon automatic and associated movements that it is difficult, in view of their rather inaccessibility from an experimental standpoint, to separate them with absolute precision. Their differentiation from the pyramidal system, however, is absolute and complete. The only uncomplicated cases of *paralysis agitans* ever thoroughly studied by modern pathological methods showed degeneration of the globus pallidus only.

ARGUMENT

The corpus striatum or its equivalent exists through the entire scale of zoology from cyclostomes to man, inclusive. In lower forms it comprises practically the end-brain. It is a primordial structure and in the lowest classes of vertebrates represents the highest motor correlating center of the nervous system. In fish, where the striate body comprises practically the entire cerebrum with the exception of the olfactory area, certain movements called automatic and associated are continuous in order to maintain their equilibrium and position in the water, and must go on automatically, similar to respiration and circulation. These automatic movements are not dependent upon individual acquisition, but are transmitted from parent to offspring as a motion formula, ready for immediate use, and can therefore be considered phylogenetic in origin. Their chief characteristics are constancy, rhythm, intersegmental association and auto-

matic nature. They are definitely purposeful. As we ascend further in the phylogenetic scale and reach the terrestrial forms, one element, the constancy of these movements, becomes not only unnecessary, but harmful, as it would tend to injury by beating against solid media, the earth, etc., besides dissipating motor energy unnecessarily. So the need for inhibition of these constant automatic associated movements was established and we see in the reptilian orders the beginning of the development of the neostriatum which is to play the role of inhibitor and which adjusts these animals to their environment and displaces the constant rhythmical associated movement with an undulatory action which is interrupted by periods of complete rest. This is the first step in the development of those activities incident to individual experience in contradistinction to those of a generic nature which characterizes the corpus striatum. In animals possessing no cerebral cortex, such as the fish, there is but a single motor pathway connecting the higher parts of the central nervous system with the lower segmented portions, the basal fasciculus. When, however, the cortex becomes differentiated, a new cortical motor center is created above the primordial one in the basal ganglion. This new motor center develops a new motor pathway. As a result of this new order the somatic muscles come under a dual control; first, that dependent upon the primitive connection between the corpus striatum and the segmented portions of the neuraxis, which, because of its ancient character, may be called the paleokinetic motor pathway; and second, the connection established by means of fibers arising in the cerebral cortex, which, because of its subsequent acquisition in the process of evolution, may be termed the neokinetic motor pathway. The basal forebrain ganglion of the fish is regarded as the forerunner of the paleo-striatum. When, however, amphibious life was first established, newer parts were added to the corpus striatum with the purpose of further extending the correlation of motor impulses. These later acquired portions of the striate body constitute the neostriatum, which is present for the first time in reptiles. It gradually increases in size and prominence in birds and mammals. In mammals the neostriatum is further subdivided by the presence of the massive system of projection fibers of the internal capsule. These fibers penetrate the corpus striatum in such a way as to separate the caudate from the lenticular nucleus. The putamen of the lenticular nucleus and the nucleus caudatus constitute the neostriatum. The phylogenetic distinction between the old and the new portions of the

corpus striatum is important as indicating the gradual extension in the correlation of motor impulses which took place in passing from the lower to the higher vertebrates. These ancient automatic associated movements leave an indelible imprint all along the line as we ascend the zoological scale and not even man escapes. They appear in all body movements in which one body segment co-operates in a definite movement with the others by intersegmental association. Various examples of automatic associated movements may be given. In quadrupeds, while running or walking, the hind and forelegs move in such a way as to give the utmost power of progression, while at the same time assuring maintainance of equilibrium. A large number of automatic and associated movements are distinguishable in man and are particularly brought out by the ultra-rapid camera. I recently saw such an illustration in a film showing Ty Cobb making a home run. In this picture I was immediately impressed by the resemblance of his movements to those of a quadruped. They are illustrated in mass movements of the hands and feet, such as those of the infant before individual dexterity has been acquired. This tendency to flexion or extension in mass of all of the muscles of the hands or feet is also conspicuous in individuals of sluggish mentality and is probably an inheritance of the undifferentiated movement of the paws of the lower animals. The functions of the corpus striatum are to regulate these automatic and associated movements, and, because of the archaic character, it has been termed the paleokinetic system. As the neopallium develops those automatic and associated movements are not eliminated, but are overshadowed by the great number of skilled acts which the individual attains by his environmental experience and this dominance of the neokinetic system over the paleokinetic system increases as we ascend the scale, but where, through injury or disease, the function of these later acquisitions becomes impaired, the primordial function again asserts itself. This is well illustrated by prenatal injury to the motor area sufficient to retard the development and the infant soon develops paralysis of voluntary movements on the side of the body opposite the injury, and in the course of time the paralyzed limbs, especially the arms, manifest more or less constant rhythmical movements which we call athetosis. These are quite different from the abnormal associated movements seen in the adult whose motor cortex is destroyed. In these cases where the neokinetic system is impaired the paleokinetic system asserts itself in various ways; thus, by the exaggerated automatic associated move-

ment seen in the paralyzed arm of the hemiplegic, in walking, in raising the arm over the head while yawning and stretching in the morning, the inability to make a fist without exaggerated dorsal flexion of the hand. The corpus striatum is purely motor in function and presides over automatic and associated movements, which movements have their sensory initiative in the thalamus and their motor beginning in the striate body. The corpus striatum bears the same relation to the motor apparatus that the thalamus does to the sensory system. It is the great infracortical center for the control and regulation of automatic and associated movements and when its control is removed the movements revert to the ancient massive type which is quite different from the spasticity following removal of cortical inhibition.

DIAGNOSIS

Although the picture of a well developed case of paralysis agitans is so striking that it scarcely can be confused with any other disease, nevertheless, there are cases of cerebrospinal syphilis with spasticity, massive forward movement of the body and tendency to festination which closely resemble paralysis agitans and can be differentiated by irregularity or inequality or other changes in the pupils, increase in reflexes and laboratory findings positive for lues. In multiple sclerosis there is sometimes tremor which somewhat resembles this disease, but is coarser and intentional in type, rather than passive as in Parkinson's. Spasticity with increased reflexes rather than rigidity is apt to be present, although the reflexes are sometimes lost. Disturbance of speech, (scanning) and deglutition is frequent and the temporal halves of the ocular discs usually show a distinct pallor. There may be initial symptoms of a degenerative type which are usually absent in Parkinson's disease. In arterio sclerosis of a senile type there may be a tremor which is constant and increased on intention. Other signs of senility, both mental and physical, and sclerosis of the vessels of the ocular fundus as seen by the aid of the ophthalmoscope. Epidemic encephalitis can be eliminated by the history and presence of disturbance of temperature.

TREATMENT

As to prevention or cure, nothing can be said at this time, but we can do much to make the patient's rather hopeless condition more bearable. For the general rigidity and feeling of discomfort, heat and warm baths are gratifying and effective, as the patients are nearly always more comfortable in warm weather or in a warm atmosphere than in places where they are apt to become chilled. Systematic

exercise, playing with a large hollow rubber ball; various calisthenics which can be devised to suit the individual case; massage, vibration, passive movements do much to overcome the rigidity and cramped condition of the muscles; exercises in which relaxation is taught are beneficial. Psychotherapy is of great assistance in overcoming the anxiety and other mental symptoms and even the rigidity. Various remedial agents in the way of organotherapy have been advocated from time to time, i. e., parathyroid, thyroxin, suprarenal, pituitary and derivatives of the sex glands. These are of avail in individual cases where it can be demonstrated there is a deficiency in the function of the glands of internal secretion. The hypodermic or intramuscular intro-

duction of foreign proteids has been advocated, but is without beneficial effect. In the medicinal substances arsenic in its various forms, including salvarsan and sodium caco-dylate, have been recommended, but, although I have rather extensively experimented with them, I have never seen any tangible results. Strychnin seems to aggravate the condition rather than alleviate it. Caffein at times improves the power of cerebration. Sedatives, such as sodium bromide, valerian and asafetida, are sometimes beneficial in quieting nervous excitement. Luminal assists in promoting sleep. Hyocin hydrobromide gives most spectacular results which are more or less transitory, but it can be considered the most valuable medicinal agent in the treatment of this disease. When sialorrhea exists, belladonna should be given. The patient should be placed in as agreeable an environment as possible and given every encouragement to promote cheerfulness.

PROGNOSIS

Unfavorable.

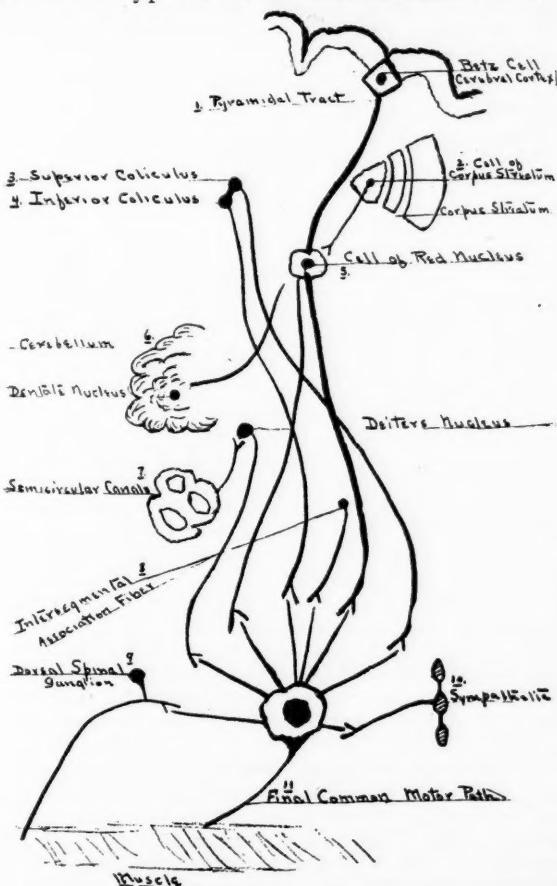
DISCUSSION

DR. CARL D. CAMP, (Ann Arbor): I have been interested in this disease for a number of years, chiefly in the pathology and the etiology.

In 1906, I had the opportunity of examining carefully the nervous systems histopathologically of 14 cases. This is a large series, because paralysis agitans is not usually a fatal disease.

There have not been the same large series of cases examined since that time.

My studies of the brain and spinal cord show that there were no localized changes which could be considered specific for the disease. It is true, there were any number of changes found in different places, but one could find some cell degenerations scattered in the brains and spinal cords of patients of similar age who did not have paralysis agitans. Furthermore, the changes that I found were somewhat different in different cases. It was possible, for instance, to find the nerve cell changes which Dana described in the anterior horn, but they may be present in one case and not in another. Islets were present in practically every case, but equally present in senile individuals who did not have paralysis agitans. I found an interesting change in the muscles of these patients. There were changes in the nature of enlarged and swollen and hyalin muscle fibers which seemed to be rather characteristic of the disease. It was impossible to say whether the change was the result of the long continued tremor or not. It might have been either way. But it was a peculiar change and characteristic of nervous disease. An interesting point in that connection was a case that came to the University Hospital in Ann Arbor, an old lady, with broken hip, brought in unconscious and died shortly afterward. No history of previous illness was obtained. Dr. Warthin, in examining the muscles, said to me a short time afterward, she has changes in the muscles which you described as characteristic of paralysis agitans. I became interested and looked up the lady's family and found she had suffered from paralysis agitans for several years, which confirms me in my belief that these changes in the muscles are characteristic. However, it seems to me, that although they are characteristic of the



The impulses carried thru the final motor pathway are influenced by all of the above synaptic connections and in all probability are colored by the influence of the substantia nigra and subthalamicum.

1. Pyramidal tract from Betz cell in Rolandic region controlling voluntary skilled movements.
2. Corpus striatum, automatic and associated movements.
3. Superior colliculus, ocular gyric movements.
4. Auditorygyric movements.
5. Red nucleus, relay station.
6. Cerebellum, synergy and muscular tone.
7. Semi-circular canals through Deiters nucleus, static control.
8. Association fiber:
 - a. Commissural from same segment level.
 - b. From segment level above.
 - c. From segment level below.
9. Sensory from posterior spinal ganglion.
10. Sympathetic, vegetative control.
11. Idiodynamic muscular control.

disease, there is no way of saying whether or not they are the actual cause of the symptoms. The theory of Ramsey Hunt, based largely on the pathologic observations of Wilson, is interesting, but it must be remembered that it is still a theory. There have been a few pathological observations of single cases in which they have found nerve cell degeneration. That is true, but if they had checked the results against the large number of other cases, I am doubtful as to what their results would be. The pathology, however, is not the real important thing, but the real important thing is the cause of the pathological changes, whether they are in the brain or in the muscle, and on that point we are entirely in the dark.

The involvement of the parathyroid as pointed out by myself in 1906, where I had the opportunity of examining the parathyroid of four cases, was such that I found the parathyroid regularly degenerated, but that is open to question as to the normal condition of the parathyroids at the age of 70, and it may be possible in many individuals at the age of 70 the parathyroids would be found diseased if they did not have paralysis agitans. There are no pathologic changes found which it would seem the patient could not recover from, yet we know that our attempts at curative treatment are very largely negative. I have found that in the early stages of the disease injections of parathyroid extract have been of considerable benefit, and this has also been noted by one or two others. It seems to me, these injections of parathyroid extract are useless in the later stage. The use of sodium ecdylyate injections has been of some benefit, but it needs to be rather carefully regulated. That is to say, one does not need to give these injections for a long time, because if the first two or three injections do not help the patient, a longer series will probably not be of any added benefit.

There is one point about the treatment that is important. Many of these patients become bedfast or chair-fast quite early in the disease and quite unnecessarily. It is the feeling of sickness and embarrassment caused by the tremor that lead these patients to remain at home, to become secluded, and keep sitting around. On account of the symptoms of increased rigidity and tremor, they become incapacitated entirely. Those patients who are usually incapacitated can be taken, and by the use of judicious exercise, massage, and hydrotherapy, relaxing the muscles, and general encouragement—you may call it psycho-therapy—can be put on their feet. I have seen patients who have been chair-fast for several years put back on their feet and in a fairly comfortable position and have had a period of usefulness which extended to five or ten years longer.

DR. LEONARD F. C. WENDT, (Detroit): Both Dr. Camp and Dr. Starkey hold out some little hope for the treatment and cure of these patients whom, as a rule, we have considered beyond hope.

It is necessary to differentiate paralysis agitans from cerebral syphilis, multiple sclerosis, and arteriosclerosis in the senile patient as well as the more recent cases of encephalitis lethargica.

The essayist stated that trauma plays an unimportant role. I would like to ask him in closing the discussion what the relation of injury or trauma is to paralysis agitans.

DR. WILLIAM H. RILEY, (Battle Creek): I enjoyed Dr. Starkey's paper very much. I have had the opportunity for a number of years to see and study quite a large number of these cases. Certainly, they represent one of the most common diseases of the central nervous system.

When we look about for causes we are not able to find anything very definite. In regard to age,

the youngest case I think I ever saw was in a young man, 31 years of age. The oldest was 65 when the disease began. Most cases occur between the ages of 45 and 60 years.

Trauma has often been spoken of as a cause, and I have observed quite a few cases where the individual had received an injury to the right arm and the tremor would begin in the same part that was injured. Just why it happens in that way, I am not able to explain. It is true, however, that we notice quite a few cases following trauma. After our Spanish-American war there were a large number of these cases that developed, supposedly due to exposure, to mental and physical strain incident to the war. We will find in our histories of these cases related individuals who have gone through a severe mental or physical strain, or both mental and physical strain in the form of anxiety and worry, or overwork and physical strain. Exposures have been blamed for the cause of this trouble, but here again we know nothing very definite. The disease occurs at a time of life when we naturally would expect the internal secretions are not so active as in earlier life.

In the last few years I have been interested in studying metabolism in these cases, and I have brought out what I consider an interesting point, that in all of these cases, particularly in those where there is a marked tremor, metabolism is very much increased. Here we need to be careful that we do not come to any wrong conclusion. My idea is that the metabolism is increased in these cases because of the tremor, because of the increased muscular activity, and not necessarily because of any increase in the action of the thyroid gland. We naturally expect the thyroid gland would be less active at this time; I think it is usually less active at this time than any other time of life. But it is interesting to note that in quite a large number of cases the metabolism is very much increased. This increase would run from 30, 45, and in one case as I remember it was 79 per cent above normal. This does not mean that the thyroid gland is overactive in these cases.

One very important thing I think we should recognize in this disease, as the doctor brought out in his paper, is that the symptoms indicate it is a disease of the extrapyramidal system, and so in these cases the reflexes may be increased; we have muscular rigidity and not spasticity. The reflexes may be variable. In my experience in the rigid form the reflexes are apt to be more increased than in the other form.

In studying the symptoms of this disease there are certain things which will help us to understand the symptoms. First of all, the fundamental conditions. We have the muscular rigidity, and we have the tremor and the muscular weakness. We really do not have any true paralysis. The muscular weakness is largely the result of muscular rigidity. The muscular rigidity is the most prominent symptom, and it is one of the earliest. In fact, it is usually the earliest symptom to appear. As a result of this muscular rigidity, we have other symptoms that are dependent upon muscular rigidity, like the Parkinson's facies, the immobility of the eyeballs, the freedom of winking, the stupid posture, slow initial movement, lateral propulsion—all the result of muscular rigidity, and I might add to these the high pitched voice. If we keep in mind the muscular rigidity as fundamental, it will help us to explain and understand the other symptoms. Muscular rigidity, however, is not always present. I examined a man the other day quite well advanced in this disease and muscular rigidity was almost absent, or not notably present. The tremor was the outstanding feature in his case.

Another thing to recognize in this trouble in the symptomatology is that it is a disease that begins locally. It always begins in one extremity, in the right or left hand, or the right foot or the left foot, and beginning locally it extends and spreads to other parts of the body. That, too, is an important thing for us to recognize in our examination and in arriving at a diagnosis. We can always refer again to the rigidity; we can often detect changes if we will allow the patient to walk in the road or room. He carries one arm at a little more obtuse angle than the other. There may be a slight difference at first, but nevertheless you can see he carries one arm flexed more than the other. When the disease has developed, the arm is flexed more. Then again, if you take hold of the arm and pull it out, you get the so-called cog-wheel sensation, a rhythmic tremor in the muscles of the arm as it is extended. You can detect rigidity in one arm against the other by a test of this kind.

The tremor, too, always begins in an extremity, in the finger end, in the proximal joints, as is the case in multiple sclerosis. In multiple sclerosis you have a coarse tremor, the movement of which is from the proximal joint, but in this disease movement begins in the distal joint and as the disease progresses the other joints—wrist, elbow, shoulder—become involved in the tremor. The tremor is usually described as passive, meaning that it is present when the patient is quiet. It is well to remember that in some cases of paralysis agitans we may also have an intention tremor.

With regard to the treatment of these cases I think, first of all, it is important for us to recognize the movement of the patient—to treat the patient. If he has some bad teeth or some diseased tonsils, or he is troubled with constipation or something else that needs attention, it should be carefully looked after.

The doctor has told us about the value of warm baths in overcoming the muscular rigidity. I have used for a number of years a warm sinusoidal bath, a warm bath through which a mild sinusoidal current of electricity passes. I have observed very good results in relieving muscular rigidity in this way. Other forms of warm baths, or the ordinary warm bath, will do good by relaxing the muscles and overcoming rigidity.

Then as to massage, it makes a whole lot of difference how massage is given. We have a special masseur for these cases, and under this personal massage we relax the pectoral muscles and strengthen the muscles. In this trouble there is overactivity of the flexors, and all joints and extremities and trunk are in a flexed position. One can do a great deal by manipulation in overcoming muscular rigidity and attempting to strengthen the extensor muscles. Exercises which will teach the patient to stand erect and walk with long strides and go through definite exercises, not simply today and tomorrow, but follow it up day after day, will enable you to accomplish a great deal, and after a time you will be able to see that you have done quite a good deal for your patient.

Many years ago I tried the parathyroid treatment of Dr. Barkley of New York, which was thought of a good deal and written about a good deal in those days. I tried it on a number of patients, and in some of them I thought I got results, but in others I could see no beneficial results whatever. But when one uses quite a number of different remedies at the same time it is difficult to tell which remedy does the good. At any rate, I never saw anything very striking from the use of the parathyroid treatment.

These people tire easily, and it is well sometimes

to put them on the rest cure, and as the doctor told us in his paper, to keep them mentally at ease so far as possible. They should be contented and happy. But if one follows out this line of treatment he can certainly do something for this class of patients. I never saw one that was cured, but I have seen quite a number that were greatly relieved of their distressing symptoms.

I want to say one word more on the diagnosis. The essayist referred to encephalitis. We get many cases resembling the symptom-complex in paralysis agitans in cases of encephalitis, and if we are not careful we will make a wrong diagnosis. The history of the case will help us; but the Parkinson symptoms appear usually after the fever has passed, but nevertheless the history will help us. Then again, we get very often changes in the pupils. In the encephalitis cases we get a rigid pupil which we never get in a Parkinson case.

DR. FRANK B. STARKEY, Detroit, (closing): In regard to the pathology, Dr. Ramsey Hunt examined only uncomplicated cases of paralysis agitans as they had never been thoroughly examined. All the other cases that have been examined are old seniles who had many complications, but in the uncomplicated cases, young subjects, there was nothing found that was pathologic except degeneration of the globus pallidus. The muscular theory has been rejected, I think, rather universally, and does not seem tenable. It has not been borne out by other cases.

As to trauma as a factor in the causation of the disease, the exact of trauma can do nothing else than to focus the attention of the individual upon the part, and this type of individual is already neurotic. The metabolism in the patient whose picture I showed is very much increased. He is still alive. This man has hyperostosis—a real bone head. His head is increased in size. Whereas he formerly wore a six and seven-eighths hat, he now wears eight and a half. I exhibited him before the Detroit Neurological Society.

**THE JOURNAL
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ON
MEDICAL SUBJECTS**

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APRIL, 1923

Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Bldg., Detroit, Mich.

Editorials

ANNUAL MEETING

The council has, through its special committee, selected Grand Rapids as the place for the holding of our 1923 Annual Meeting. The dates are Sept. 11, 12 and 13. Work has already begun in preparation for that meeting.

September was selected for the reason that a number of our members intend going to the A. M. A. meeting in June. Another reason was that a June date conflicted with the furniture exhibition which always taxes the hotel capacity of Grand Rapids.

In September we will have ample accommodations. The Pantlind Hotel with 700 available rooms will be headquarters. In addition the new Rowe Hotel with 300 rooms will also provide pleasing accommodations. These two modern hotels will make special effort to care for our members. It must be remembered that these hotels always have a large transient business. Therefore, members should write for reservations and not wait until the last week. Make your reservations now!

Other announcements and program features will be imparted from month to month. President Hutchinson, of the Kent County Medical Society, has already appointed the several local committees on arrangements and entertainment. You are assured of the finest Grand Rapids hospitality.

For the present mark the dates on your calendar—Sept. 11, 12 and 13.

TO THE MEMBERS OF THE MICHIGAN STATE MEDICAL SOCIETY

As the last two numbers of the Journal have contained many articles discussing the so-called Sheppard-Towner bill and the general activities of our State Department of Health thereunder and independently, it seems to me pertinent that your President should present some facts for your consideration concerning the problems that are troubling the medical profession generally; not only in Michigan, but in nearly all states. I consider that it is no part of my duty to engage in propaganda for the purpose of bringing you to my way of thinking, but that it is proper for me to assist in presenting to you the existing facts in order to furnish you a proper basis upon which to found your own conclusions. The Sheppard-Towner bill is only an incident in the problems arising concerning the changing relations that have been for some time taking place between the profession and the general public. It may be helpful to briefly outline how those problems have been handled in other states. Those questions all relate to the attitude of the State Societies concerning public health activities of state, county and city health boards and of voluntary organizations composed wholly or in part of lay members. The medical profession is the father of most of these organizations. It is also the father, mother and wet nurse of the various health organizations maintained by the state and municipalities. Heretofore the position of the medical profession upon questions of improving public health conditions through the activities of such organizations might be safely accepted as sympathetic. It seems that now conditions are changing and that nothing can be taken for granted. Dr. Wilbur, the President of the A. M. A. says:

"The public is watching the medical profession. It has made up its mind that we are intolerant and selfish—as a profession. They look upon us as an arrogant, intolerable and bigoted class, who are trying to put something through from selfish motives—the issue amounts to one thing, that is the education of the people."

The Colorado State Society is trying to solve the problem through the Public Health League, an organization composed of laymen and physicians. The dominating force being laymen.

The physicians remain in the background and serve as advisors; although their recent campaign against the efforts of the anti-vivisectionists was successfully conducted under the leadership of Dr. Henry Sewall.

THE IOWA PLAN.

In Iowa the present plan was adopted finally in May, 1922. It was tried out tentatively by a committee for one year. As finally adopted it consists of a standing committee of seven called the field activities committee, of whom five are members of the State Society, one represents the State Tuberculosis Society and one the Social Workers of Iowa. This committee is appointed in the following manner. The president-elect of the State Medical Society is one, two are selected by the Council of the State Society, one is appointed by the medical faculty of the state university, and another is appointed by the State Board of Health. These five are all to be members in good standing of the State Medical Society. The representatives of the Tuberculosis Association and the Social Workers are usually laymen. A field director was appointed by the committee and the secretary of the State Society was made advisory secretary. The State Society appropriated \$7,500.00 to pay the expenses of this committee for one year. In its year of operation this committee directed its attention very largely toward stimulating the component county societies to perform more adequate work—"that they should attain and maintain not only sustained functioning efficiency as working organizations, but that the activities of such county societies should have the interested and intelligent co-operation of other agencies concerned with related activities." The stated objects of the committee are, "First to perfect the organization of county medical societies; second, to stimulate such societies to greater activity along public lines, and third, to effect co-operation between such societies and other organizations of the community." There existed in Iowa an organization known as the legislative council, which represented 28 organizations, institutions, departments, etc., the two outstanding organizations being the Tuberculosis Association and Iowa State Conference of Social Work. "While we were being subjected to a drubbing by the united cults, using chiropractic as the salient of their advancing wedge, the legislative council in marked contrast carried through practically its entire program. It is almost superfluous to state that the legislative committee of our state medical society has moved from its former position of conspicuous isolation, and now functions as a sub-committee of the legislative council." The full time director of the field activities committee has his office in association with the executive secretary of the Tuberculosis Association, thus reducing the office expense for both associations.

It will be noted that in our state we have in our joint committee an education, the nucleus of a committee like that in Iowa. We also have in Michigan a state law similar to that in Iowa which is applauded as follows by the Iowa State Medical Society: "We have enabling laws that provide for the building and maintenance of county public hospitals, which also provides that the trustees of such county hospitals may receive and administer funds donated by individuals, endowments derived from legacies; and laws by which county boards of supervisors may employ public health nurses

and trained social workers by which boards of education and municipal governments may separately or unitedly employ public health nurses. The service of all of whom may be centered in and administered from the county or community hospital."

THE MAINE PLAN

Maine has a plan under which they have been operating two years and Dr. Bryant has this to say for it after two years' experience: "We have been working under this plan for the last two years and are finding many good points and some defects. We found our voluntary health workers ready to organize under one head and willing to co-operate in every way. The two principal health divisions were in charge of physicians, both members of the state association. This made it very easy to form a committee of public relations, and, in an advisory capacity to bring about co-operation between all the health workers in the state of Maine. We found on the whole that it was less difficult to educate the public than to educate the physicians. The people, you will find, are pretty well on their toes as regards public health work. The people are not only willing, but anxious that the physicians take charge. One of the best systems of education we have found consisted in establishing public health clinics. We have held these clinics successfully under the co-operation of the State Board of Health, the Maine Medical Association and the Maine Public Health Association. These are a part of the public health program. A society or group of county societies take charge of these clinics, which are grouped about some hospital, and last two days."

In California the State Society works on health matters in co-operation with the league for the conservation of public health. This league is a 365 day organization, functioning efficiently every day. It conducted a campaign and defeated the anti-vivisectionists by a majority of 254,000. Two years later this fight again took place and the league won by 288,000.

In Ohio there is a very close co-operation between the State Society and the State Board of Health. Dr. J. H. J. Upham of Columbus has made the following comment:

"One must remember that all state health departments in reality are the offspring of the organized medical profession. Born in the travail of many a hot fight by the 'vested interests' in the various legislatures, they have been tenderly nursed and watched over through many years until now, as it were, they have reached man's estate. It seems to be characteristic of this day and age to criticize our younger citizens. We see families in which the parents and children appear to be in perfect harmony. On the other hand, we see families in which the parents fail to realize that their children are growing up, that they have maturing minds; and we even see some parents who are jealous of their children. It seems to me that this expresses our own conditions exactly. In some states we have the happy families, and in few we have the unhappy ones. In the former, everything is harmonious, and the efficiency of the health departments, and the prestige and prosperity of the medical profession grow and increase like a green bay tree. In other states, bickerings and discord arise. Not only does the public suffer, but so also does our profession, in prestige and efficiency as well as in actual material prosperity."

"Ohio has been fortunate in being one of the happy families. We have watched our health department grow, and we have taken pride in its development. We have fostered it and encouraged it through the years. Only a few years ago, our association worked loyally for the support of a bill which greatly increased the scope and power of the department, and our members have always co-operated with it to the best of their ability. We have heard little of so-called state medicine in Ohio, except for the attempt of propagandists from other states who tried to foist state health insurance upon us, with no encouragement whatever from our health department, and, in fact, so far, from no one else, so the effort has been in vain. After the Boston meeting of the American Medical Association, however, we viewed with concern the evidences of discord in other states, and our legislative committee promptly sought a friendly conference with the newly appointed director of health, Dr. H. H. Snively. I am glad to say that we were met by the director and his colleagues in a friendly spirit, and, through our mutual efforts, a policy was evolved and publicly announced which has been endorsed by our state association, and is receiving the active co-operation of our members. In brief, this policy embodies the spirit of the resolution subsequently passed by the House of Delegates at the St. Louis meeting of the American Medical Association, although in its language, we believe, it is broader and goes farther in the recognition of the interests of the medical profession. Necessarily, therefore, it recognizes the official organization, the state association, and endeavors constantly to carry on its local activities through, and with the local medical societies. Take, for instance, the state diagnostic clinics, in which there are great possibilities for trouble. In our state, these have been worked up through, and with the co-operation of, the local medical societies, with most gratifying results. Let me quote from an article by Director Snively in Health for October of this year: 'One of the most outstanding accomplishments of the last fiscal year, now just ended, has been the educational results attained in the 25 diagnostic chest clinics conducted in 22 counties since Oct. 1, last. In the 25 clinics 1,591 persons were examined, of whom 446, or 28.6 per cent, were found to be positive cases of tuberculosis, and 275, or 19.6 per cent, were classified as suspects, making a total of 721, or 46.2 per cent, referred back to their physicians. Not less than 90 per cent of these 721 persons are undergoing treatment. Most of the cases were diagnosed at a stage when the infection was most easily remediable. This is not the most important phase of the matter, however. Physicians in every county where a clinic has been held report that as the result of interest aroused by the diagnoses, they are examining among relatives, friends and neighbors of those patients, giving positive reactions and suspects, more persons than were examined in the clinics. The demand is for complete physical examination, in numbers exceeding anything ever before known in those communities. The percentage of infection is not so high as in the clinics; but the result is the same—not merely the uncovering of a fluctuating, but always present, amount of tuberculosis, but also the broad stimulation of intelligent interest in complete physical health."

"When the Sheppard-Towner bill became a law, Director Snively promptly invited representatives of our association to a conference to evolve a working policy which would be acceptable to our profession, and the plan adopted involves a program of education of the expectant and recent mother, which has great possibilities for good, and which avoids, we believe, all of the dangers of this law."

In the discussion of this paper by Dr. Arthur T. McCormack of Kentucky, the following remarks were made:

"In this country, the whole profession is being injured by the conflicts between the state health departments and state medical societies in Massachusetts, New York and Illinois. This has been because the state medical organizations in these three states are not functioning as medical organizations should function if they get anywhere and do anything, and all the rest are paying the penalty for the conflict in these states. Their representatives should clean house and straighten the matters that are in conflict between them. Until this is done there will be no further advance in these states."

These reports of the activities in other states are by no means comprehensive but I believe are sufficient to illustrate what I believe should be done in our state to co-ordinate the activities of our State Society with our State Department of Health and Lay organizations engaged in public health work, our State Public Health Association and our State Tuberculosis Society. Our own State Department of Health is certainly one of the children of our State Medical Society. Its members have always been members of our society. For many years we had as a prominent member the great authority on preventive medicine, our former President, Victor C. Vaughan. At present that great public health official and former President of this Society, Guy L. Keifer is President of the Council of the State Department of Health. Other medical members of the Council are Doctors Harkness, Slemmons and Gowdy. The lay member is Judge Carr, a member of the legal profession who has for many years been a friend of the medical profession. I recognize those members of our Society, who constitute its section on Public Health as equally entitled to respect with those who constitute the section on Surgery. I feel, that as President, I represent the one class as well as the other. The Commissioner of Health is also a member of this society, and has manifested on all occasions a desire to protect the interests of the individual practicing physician. He is a member of the Joint Committee on Public Health Education, and has been very helpful in furnishing speakers from his department to address public meetings upon request of the Director. Last fall he invited me to name a committee to confer with him concerning the policies of his department, particularly upon the program outlined by his Council for the operation of the Child Welfare Bureau. I assented and asked the committee on legislation and public policy to assume that duty. I selected that committee because it consisted of men who have been honored and trusted by this society for many years, and I believed that their opinion, if unanimous, would be generally accepted by the majority of the society members."

ship. On the 6th of December this committee met in Lansing and Doctors Hume, Brooks, Tibbals and Stewart were present. They carefully reviewed the work of the department, reviewed the regulations adopted for the conduct of county diagnostic clinics, studied the program for the conduct of child welfare activities and gave it their unanimous approval, and indorsement. This is in accordance with the action taken in other states where the state society is working in harmony with its health department, and I entertained no doubt would be readily accepted by our members as evidence that their interests were adequately protected.

The situation of unpreparedness in which this society found itself when called upon to face and pass judgment upon vital public health problems is not the fault of the Council or House of Delegates. Years ago these bodies realized that conditions were changing and that it was incumbent upon the medical profession to look ahead and prepare itself to lead in the changed relations with the public that were bound to come. Accordingly a standing committee on civic and industrial relations was provided for and it has been continued in existence ever since with George E. Frothingham as its chairman. When this committee was first established the question of compulsory health insurance was under discussion and Dr. Frothingham appealed to the profession with some critical investigations and reports that met their general approval. No one in Michigan seemed to be in favor of compulsory health insurance anyway but Dr. Frothingham has ever since maintained his critical attitude concerning any suggestion made by anyone concerning public health activities. Suggested community hospitals have been condemned and their proponents stigmatized as advocates of state medicine, yet the establishment of county hospitals in Iowa is now being advocated by their State Society. All suggestions concerning the participation of our Society in public health activities have been "received with alarm" by Dr. Frothingham. He has never made a constructive suggestion himself. I cannot learn that his committee has ever held a meeting until recently when they refused to indorse his recent attacks upon the State Department of Health. On the other hand they arranged for a conference in Lansing with the Commissioner and Council of Health and your President was invited by the Commissioner and urged by the Secretary-Editor to attend that conference. It was agreed that he should be asked to appoint a new advisory committee to the State Department of Health, consisting of men who had not heretofore been concerned in the existing dispute as exemplified by the last two numbers of the Journal. I agreed to this and named the committee as announced elsewhere in this

Journal. When last summer I reappointed Dr. Frothingham, chairman of his committee, I urged him to hold a meeting thereof and endeavor to formulate something worth while as a constructive measure to submit to the next meeting of the Society for consideration. I had in mind the consideration of something on the order of the Maine plan. He replied that he could not get his committee together and that he was heartily sick of suggestions concerning "constructive" plans, that to his way of thinking, watchfulness, not construction was needed; watchfulness of the enemies inside of the profession, presumably most of the leaders of the A. M. A., who in his opinion were conspiring to turn over the entire practice of medicine to the state, so called "state medicine." He also added our own Secretary-Editor to the long list of suspects previously named and implied that said Editor had sold his heritage for a mess of pottage, the doubtful honor of an office in the A. M. A. It is somewhat refreshing to note that the Editor has redeemed himself in Dr. Frothingham's estimation and again placed himself in good standing in the "viewing with alarm" club. Dr. Frothingham says he will never yield a principle to a question of expediency. That is commendable if the principle is good and if it can be won by inexpedient methods. I suggest that an open fight upon a state health department and a Governor at the opening of a legislative session is neither a good principle of conduct nor an expedient procedure. It is evident that the Committee on Civic and Industrial Relations is a failure, that it cannot function as at present constituted and that nothing is likely to come from it that will be helpful to this Society. This I am assured is the belief of a majority of the members of the committee. In January the council of the Wayne County Medical Society gave expression to its views upon public health activities. I am aware that it has been denied that the expressions repeated in the Bulletin for January 15, were ever made. Therefore I quote from the report made in the Bulletin verbatim, because so far it stands as the official expression of that body—"Moved by Dr. Kelly that it is the sense of this meeting that we are opposed to increased public health activities, except as they refer to contagious diseases, and dangerous to the public health—motion was seconded by Dr. Wallace and carried. Motion by Dr. Holmes, duly seconded and carried that any increased public health activities have not increased the practice of the physicians. Motion duly seconded and carried. Motion by Dr. Kelly that it is the sense of this meeting that we are not in favor of the establishment of full term county health officers for all counties throughout the state. Motion duly seconded and carried."

How humiliating must it be to self respecting physicians to have such sentiments as these flaunted in their faces as the sentiments of the medical profession? I have many times this winter suffered that humiliation at the hands of members of the state legislature. This expression of the council of the Wayne County Society was distributed among the members of the legislature as evidence that the only interest possessed by the medical profession in public health work was in some procedure that would increase the private work of the physician, that as a class we are selfish, arrogant, only interested in our own prosperity. How does that expression compare with the attitude of the state societies of Iowa, Maine and Ohio which I have presented for your consideration? It is a wonder that such utterances from Wayne do not cause the shades of Connor, Carstens, Inglis and Walker to rise from their graves in protest. That this expression is resented by many honorable physicians of Detroit is evidenced by the receipt by me of scores of letters to that effect.

No wonder Dr. Donald made the following remarks shortly afterward at a meeting to consider the matter of holding a health exhibition.

"There is no doubt that the public, from which we obtain our income and livelihood, is drifting away from us. Numerous forces are at work sweeping the stream along toward the severance. Many members of the society feel that a proposition such as outlined may be a determining factor in re-establishing normal, sane, healthy relations and mutual understandings between the public and the medical profession which serves it."

Are we to assume that this describes properly the attitude of the public toward the medical profession of Detroit? If so, the Detroit profession is to blame and may we not justifiably conclude that the narrow, selfish spirit manifested by those resolutions of the Wayne County Council is responsible for the condition. The medical profession, outside of Wayne, is not so regarded by its public. In rural communities the members of the medical profession are still leaders of public thought, are still respected members of society. I have visited four counties since February 1, Genesee, Saginaw, Grand Traverse and Wexford. In all a splendid co-operation exists between the County Society and the public health organizations and in all the public manifests confidence in the integrity, honesty, ability and good faith of its medical men. Throughout the rural counties of the state the diagnostic clinic conducted by the department of health have been sustained and assisted by the local county societies. Those clinics are universally regarded by the local doctors as the most important measures yet adopted for disseminating knowledge of health matters among the people. Fre-

quently the clinic week is terminated by a special meeting of the County Society where the examiners and their nurses with some lay people interested in public health work gather around the banquet board, exchange experiences and become acquainted. In these districts the doctors still possess the complete confidence of their public. An effort made by the self respecting well meaning physicians of Detroit who, I believe are in a majority (if they will but take the pains to assert themselves) to educate selfish ones in their midst, will do more to restore the confidence of the public in their profession than will a dozen \$35,000.00 health exhibitions. I have now presented to you a sketch of the movements taking place in a few states that are succeeding in improving the standing of their professions with their publics. I have shown to you that an effort has been made, I think with success, to protect your interests in the conduct of your state department of health. Men who have had your confidence for many years have been on the job and have given their approval to the work of that department. I have not considered the Sheppard-Towner bill because I am not conducting a propaganda in its support, as I stated in the beginning. I have read the so-called arguments against the bill which would be conclusive if they were based upon facts instead of apprehensions. That bill is a congressional enactment of 1921, creating a fund to be renewed annually for five years for distribution among the states accepting it. It was accepted by the Governor of Michigan and its administration placed in the hands of the child welfare bureau of the state department of health. It is the rules adopted for administering that bureau that your legislative committee approved. Those rules have also been accepted by the Federal Bureau that is charged with distributing the money to the states. Opponents of the bill declare that such action at Washington is a make-believe and that if approved by the legislature the Federal Bureau will then assist on taking charge. That charge is a pure assumption, not supported by any evidence except the imaginations of those who utter it. In any event our committee did not endorse anything of the sort, and we have the assurance of the Health Commissioner that he will not continue operating under the law if any such conditions are imposed at Washington sometime in the future. We are not particularly interested in the politics of state rights. Detroit alone spends more money in child welfare work in a month than the state would have to spend in a year even with federal aid.

A pie was placed upon the lunch counter by Congress. The question placed before the Governor was "Shall Michigan accept a piece or not?" He might not have favored the pie

legislation if he had been a Congressman, but it would not destroy that legislation if Michigan declined to accept its piece. New York has declined to accept its piece of pie, but the piece for New York is so small in comparison with that state's appropriation for like purposes that doubtless it was not considered worth while. New York City alone spends for child welfare work nearly as much as the entire Government appropriation to be divided among all the states. That is a subject for reproach also in the arguments of Dr. Frothingham and yet New York City has by preventive inoculation in children almost wiped out diphtheria. Dr. Frothingham says they are spending too much money. It is the first time I have ever read a statement from a physician that too much money was being spent in preventive medicine by any municipality or state. How do these appropriations compare with those being made to prevent disease in hogs and cattle? Dr. Frothingham and his kind will of course say that such expenditures are justified because they protect property which of course is far more important than mere human life. But grant that prediction made by Dr. Frothingham and in the Journal Editorials for March prove true, grant that our public health workers have a deep laid scheme back of it all to become permanent parasites upon the public and retire after a time with the magnificent pension paid to retired Government employes and grant that the private practice of medicine becomes a thing of the past, as is predicted so freely, do you think all that would, during the life of the present generation, be so disastrous to the reputation of the medical profession as is the immediate effect of such propaganda as is now being disseminated by the opponents of public health departments, as they are at present administered? If the ideal of the medical profession is to be that outlined by the Council of the Wayne County Medical Society, I care not how soon it is disrupted or how soon it is overwhelmed with the disdain it is entitled to meet at the hands of the public. Such a narrow, selfish creature as the medical profession would be under that suggested ideal is not worth fighting for. It is said that your President and the Legislative Committee and now the committee on Civic and Industrial Relations, barring its chairman, have refused to obey the order of the Council to combat the Sheppard-Towner bill. Six members of the Council met in Ann Arbor in January and by vote of four to two took the action stated. I stated to them at the time that I should not obey their instructions if it involved making an attack on the state administration or the state health department. Dr. Hume at once tendered his resignation as chairman of his committee. I declined to accept it for the obvious reason that there were

other important matters in the hands of his committee and that it is usually considered bad policy to trade horses in the middle of a stream. Then I soon became convinced that if all Councilors were present no such instruction could be adopted and Dr. Jackson requested the chairman to call a special meeting which was not done. Then I attended several county society meetings and conferred with many members and received many letters, particularly from Detroit and became convinced that the Council action did not in fact represent the attitude of a majority of our Society. We have, however, not done anything to assist in the passage of the bill. We have given its opponents, without comment, full opportunity to express themselves in two numbers of the Journal. I am now presenting this discussion to the members in April. I presume action on that question will have been taken before this communication is printed. The resolution of the Wayne County Council had an effect on the legislature to antagonize many of them toward the medical profession and to increase the chances of passage of the chiropractic bill. It also seemed to increase the chances of passage of public health legislation. The more it appeared to legislators that certain legislation was not favored by the medical profession, the better appeared to be its chances of adoption. I believe now that positive action should be taken at the next session of our Society to co-ordinate its activities with our state department of health, the state association of public health workers and the state tuberculosis association. I think we should have a field activities committee similar to that of Iowa and that we should provide funds so that it may function 365 days in the year. I think that we should redeem ourselves in the estimation of our public and show that we have not lost all the altruistic qualities that we have up to this year claimed that we possessed. I commend to your reading and careful consideration the February Bulletin of the A. M. A. from which I have made many quotations in this article. In reply to a letter written by Dr. Frothingham the President desires to state that he does not consider himself supreme, far from it, but he does consider himself qualified to do his own thinking and believes that it is his privilege and duty while occupying the office to present his views to and receive instructions from the members of the State Society. He does not believe that he would be justified, at the behest of one-fourth of the Council, even if it chanced to be a majority of those present to enter upon what he personally considered to be an unjustifiable attack upon a large section of his constituents.

W. T. Dodge,
President, Michigan State Medical Society.

THE NEED FOR A STATE HEALTH COMMISSION POLICY

What the scope and extent of work of our state and local health officials should be is a subject that is of intense and vital concern to the medical profession. This concern is becoming more grave in the light of facts that indicate an aggressive movement and activity on the part of health officials to enlarge their field of activity. They are no longer solely concerning themselves with the problems of health and disease prevention. They are openly and with increased avidity engaging in the actual practice of treating patients and do not limit their work to the indigent of the state or community.

The profession, individually and collectively, must concern itself with this problem. We cannot remain inert while these aspiring officials under the guise of health conservation, "Saving Human Lives," "Saving Mothers and Babes," and similar catch-line and appealing phrases insidiously extend their efforts to fasten upon state and society their plans of socialism and socialized medicine. Our lethargy has continued too long. The time is at hand for a definite and forceful declaration of our position and such activity as will be necessary to halt this aggression.

We are in full sympathy with activities that are limited to the features and problems of health. We are not in sympathy with those activities in which the state, through health officials, enters into competition with practicing physicians in the diagnosis or treatment of cases which have no direct bearing upon the health or welfare of the community.

We support the proposition that the state should care for its mental and moral defectives and its indigent sick. We unqualifiedly condemn and protest against the socialistic efforts of state health officials and municipal health officials to force the expense of private health upon the taxpayers under the guise of public health.

We commend the establishment of free clinics for the treatment of tuberculosis, mental hygiene, venereal and other diseases of the indigent sick, but for *no other than the indigent*. We also commend and support efforts by health officials to recognize and properly to safe-guard all cases of diphtheria, typhoid fever and similar contagious diseases. The recognition of open or communicable stages of venereal diseases and tuberculosis may logically be considered a public health problem.

The performance of the Wassermann test for public institutions whose inmates are wards of the state can not be criticised. We do maintain that this test should be made by our state

laboratory only for these institutions and for the indigent.

The various routine examinations of sputums, urines and feces, the diagnosis of tissues from surgical cases and from autopsy examinations and making of microscopic and other examinations of bloods must be regarded as a direct and uncalled for invasion of the field of diagnostic medicine. Such examinations are not an aid in any way to the enforcement of public health measures. The state, in making such examinations, at once enters into competition with physicians and at the same time pauperizes the patients at the expense of the tax-payers.

The above are but some of the instances wherein the state, by reason of the plans and activities of its health officials, and not by reason of public needs or demands, is invading the field of medicine and engaging in the practice of medicine. They are by no means limiting their work to the indigent or state wards. Unrestrained and unprotested you may confidently anticipate that these officials will reach out to greater efforts and ere long establish the baneful state of socialized medicine. The need exists for an investigation, the formulation of a policy and the enforcement of that policy so that a rational interpretation of the function of a state laboratory and state health department may be defined, and, if necessary, incorporated in a statute.

A policy which makes it possible, even invites, physicians to benefit from public service at the expense of public funds is indefensible and demands revision. Evidence is at hand that specimens are sent to the laboratory from patients who can and do pay and these examinations are made free by our state laboratory. Evidence also is at hand that physicians sending these specimens do collect fees from patients for these examinations that the state makes without fee or cost to the doctors. The records will show that a huge volume of Wassermanns and other examinations are being done for private patients at public expense.

The question is what are you medical men going to do about it? Are you going to sit idly by and permit such a policy to continue? Are you unconcernedly going to allow one or a small coterie of health enthusiasts in state and municipal employ to formulate and apply a policy of state practice of medicine? Or, are you going to bring this matter to an issue now and terminate the present situation?

We are firmly of the opinion that within the very immediate future a conference composed of representatives from each county society should be called at some central point. That the situation should be thoroughly canvassed. That a policy should be adopted and then that our organization as a whole should, with en-

listed support from outside agencies and individuals, make such presentation and impell such action as will bring about the abatement of some of the present practices that are being engaged in by our health officials. We believe that the calling and arranging for such a conference should be undertaken by our committee on Civic and Industrial Relations in conjunction with the Council. What is your opinion, we ask you?

RED CROSS MEDICAL ACTIVITY

Some difference of opinion existed among members of the American Red Cross as to character and extent of its peace-time health program. This was shared by members of the medical profession. At St. Louis the American Medical Association by resolution questioned the Red Cross activities. The subject has received earnest consideration and now, on recommendation of an advisory committee, a definite program has been adopted. It is set forth in the following report:

REPORT OF ADVISORY COMMITTEE ON THE HEALTH PROGRAM OF THE AMERICAN NATIONAL RED CROSS

STATEMENT OF THE PROBLEM

The American Red Cross has, for a period long antedating the Great War, included public health work among its major activities. Through its nursing services, through classes in home hygiene and nutrition and through leadership in the field of co-operative organization of voluntary health agencies, it has made contributions of fundamental importance to the cause of public health. Through its primary part in the establishment of the League of Red Cross Societies, the American Red Cross has even assumed a certain sponsorship for the concerted spread throughout the world of the conception of the Red Cross as a constructive peace-time health agency.

Yet, in spite of the special activities noted above, the American Red Cross has, itself, today no real health program—in the sense of a concrete and comprehensive plan of activity which it can recommend as a basic foundation for local action throughout the country. We are well aware that the chapter is the ultimate source of action; but it is as clearly the function of the national organization to formulate general programs and to exercise leadership in securing their acceptance by the chapters. That no health program has yet received any such general acceptance is indicated by the fact that on Sept. 30, 1922, out of 2,960 chapters reporting, only 33 per cent were conducting public health nursing, 14 per cent were maintaining classes in home hygiene and care of the sick, 10 per cent were making specific efforts to co-ordinate the work of local health agencies, and but 8 per cent were holding nutrition classes.

The problem laid before your advisory committee is, as we understand it, whether the individual health activities of the American Red Cross, as carried on at present, should be curtailed; whether they should be maintained on their existing basis; or whether they should be developed and co-ordinated into a health program of sufficient appeal to attract a wider chapter response than has hitherto been manifest.

THE NEED AND OPPORTUNITY FOR A RED CROSS HEALTH PROGRAM

Your committee is unanimously of the opinion that the last mentioned alternative is the one to be adopted. The charter of the American Red Cross clearly lays upon it the responsibility of preventing as well as of alleviating, the suffering created by preventable disease. Abandonment of health activities is therefore out of the question, and if health work is to be performed at all, it seems to us clear that it will gain immensely in efficiency by fuller co-ordination and more definite emphasis.

From the standpoint of the public health worker and that of the practicing physician, your committee believes that there is a unique need and a unique opportunity for such a health service as the American Red Cross could render. The protection of the public health is fundamentally a governmental problem; but it is a problem which requires for its solution not only official action, but also the intelligent and active co-operation of the individual citizen. Modern wars are not waged by armies alone. The munition worker, the transport worker, the miner, the farmer, play a part as essential as that of the soldier. The war against disease must also be a war of the whole people. Such primary requirements as water supply and waste disposal systems may be provided and quarantine regulations enforced by the governments; but the most important problems of modern public health can be solved only with the voluntary co-operation of the individual citizen.

The object of the public health worker of the present day is to change the daily habits of life of the woman in the home and of the man at the desk and the work-bench. Such a change cannot be effected by laws, but only by the slow process of education. In recognition of this fact the public health movement in the past ten years has become more and more definitely educational in its very essence.

It is in connection with this great educational campaign for public health that the Red Cross finds its supreme opportunity for leadership. Non-political and non-partisan, established in the confidence of the people as the greatest practical world force for the concrete expression of the ideal of service to humanity, with vast potential membership and an organization which can be developed so as to reach into every hamlet, the Red Cross, and the Red Cross alone, can successfully effect the mobilization of popular sentiment which is necessary to make the control of preventable disease a solid reality.

THE HEALTH STUDY CLASS

It has been well stated that "the function of the chapters of the American Red Cross in the health field is the promotion of individual and community health through personal service, group instruction and general health propaganda." Personal service, as a rule, however, should be conducted by the Red Cross during a definite demonstration period, to be turned over as soon as possible for routine administration to the constituted health authorities. In other words, even such actual services as public health nursing are rendered by the Red Cross as educational demonstrations. Education is the center and the essence of the Red Cross health program.

We would recommend, in order that the full possibilities of Red Cross health education service may be realized, that the home hygiene and nutrition work now conducted by the Red Cross be incorporated in a more extensive plan which would aim at the organization within each Red Cross chapter of a health study group—for the consideration first of the principles of personal hygiene and, second, of local community health conditions and health needs.

This study class of health committee would thus become a continuing force for the support of the public health program in the community served by each chapter—an organized expression of that voluntary interest and voluntary support which are so essential to the conduct of the modern public health campaign. Particular applications will differ in different communities; but there is no single chapter of the American Red Cross which has not members who would benefit by a study of personal hygiene; there is no single chapter which by an intelligent survey of its local health situation, could not find some opportunity for concrete service. The development of health study classes and neighborhood health service committees should, we believe, form the basic and universal element in a comprehensive health program; and the national organization should, in our judgment, take a definite and vigorous lead in this matter by preparing outlines of organization, syllabi for lectures and conferences, plans for surveys and suggestive standards for health programs.

SERVICE ACTIVITIES OF THE RED CROSS IN THE HEALTH FIELD

Although the fundamental objectives of the Red Cross health program should be educational, it is obvious, as we have pointed out, that the best form of community education will often consist in the demonstration by a chapter of the value of specific community health services, wherever possible with the co-operation of other health agencies. Public health nursing and the co-ordination of existing community health agencies are excellent examples of such demonstrative community health education; and the health study classes will prove an invaluable medium for revealing opportunities for constructive services of this type.

As important integral parts of a health program based on health study and health demonstration we desire to express our hearty approval of the following policies of the Red Cross as at present formulated:

1. The organization of classes in home hygiene and the care of the sick.
2. The organization of classes in nutrition.
3. The organization of classes in first aid and life saving.
4. The health phases of the Junior Red Cross program, such as (a) the development of personal health habits; (b) participation in a school health program; and (c) participation in community health programs.
5. The enrollment of properly qualified nurses under the division of nursing service.
6. The organized development of public health nursing in rural and semi-rural districts, through the activity of the division of public health nursing.
7. Assistance in the development and standardization of the training of public health nurses through loans, scholarships, subsidies and the like. (This work of the Red Cross could with advantage be materially expanded in co-operation with the National organization for public health nursing).
8. The development of machinery for the co-ordination at one central point of the work of various local health agencies.
9. Co-operation on a national scale with such organizations as the National Health Council for the purpose of furthering the co-ordination of voluntary public health activities.

DANGERS TO BE AVOIDED

If the Red Cross health program is to avoid reasonable criticism it must be so framed and so executed, both nationally and locally, as, in all respects to supplement and co-ordinate with the work of constituted public health authorities and of the medical profession.

It should be regarded as an essential principle by the Red Cross that all health work undertaken shall be carried on only with the knowledge and approval of the State Department of Health and of the locally constituted health authorities of county, city or town. It should be considered a primary responsibility of the division offices of the Red Cross to consult with State Department of Health and of the chapters to consult with local departments of health before engaging in any new health activities and to keep such departments regularly informed of their progress and development. It is desirable, wherever possible, that the local health officer should be an active or co-opted member of each Red Cross chapter executive committee.

In view of the intimate contact between a public health program of any type and the work of the medical profession, it is recommended that chapters ask the local Medical Society or the local physicians as a group to nominate a doctor of their own choice to act as their representative on the chapter executive committee or the committee on nursing activities.

It is axiomatic that neither the nurse nor any other Red Cross worker diagnoses, prescribes or gives medicine or surgical care except under doctor's orders.

The following principles now governing chapter procedures which relate to the medical profession are approved by us:

1. The nursing of patients shall be carried on only under the direction of a licensed physician.
2. In advising relative to securing medical or surgical treatment the Red Cross does not choose between individual licensed practitioners. Such choice must be left to the individual patient or to his family.
3. The Red Cross advises with reference to securing special medical and surgical treatment only after consultation with the physician where one is available.

Chapters which employ public health nurses should request the Medical Society or the local physicians as a group to endorse standing orders which the nurse should follow in giving nursing care on her first visit to a patient if the patient has no doctor, or if the nurse cannot get in touch with the patient's doctor.

It is understood that such orders do not authorize a nurse to continue giving nursing care after the first visit if there is no doctor in charge, and that the nurse will make every effort to get in touch with the doctor in order to secure his specific instruction in person.

The Medical Society should also be asked to decide to whom the nurse shall refer indigent patients for diagnosis and treatment in the absence of a public physician for the poor; and to say what the nurse is to do if a patient having no family doctor and no knowledge of local doctors asks for suggestions as to medical care.

ESSENTIALS FOR SUCCESS

The success of the Red Cross health program, on a comprehensive scale, depends, first of all, in our opinion, on the appointment of a director of health services of such capacity, experience and reputation as to command the respect and co-operation of public health officials and of the medical profession throughout the country. He should be provided with such expert assistance as may be necessary to guide and co-ordinate chapter health activities and the specific health activities listed previously in this draft, except Numbers 4, 5, 6 and 7, should be placed under his direction.

In the second place, it seems to us essential, if a comprehensive health program is to be undertaken, that it should be inaugurated with ample

publicity and with the full and whole-hearted support of the central committee and the executive authorities at Washington. Such a program can succeed only with vigorous and enthusiastic support by the central organization of the conception of a broad educational health program as one of the primary and essential objectives of the Red Cross in peace-time.

Finally it is understood that our approval of the health program is conditioned on the fulfillment of the limiting conditions laid down above and that in approving it we assume that the authority of the official heads of the organization at Washington will be fully exercised to secure the acceptance by the chapters of these conditions.

THE ADVANTAGES OF A RED CROSS HEALTH PROGRAM

The primary incentive for undertaking a comprehensive Red Cross health program lies in the fact that the greatest present need in the field of public health is the need for educating the individual citizen and mobilizing popular support for the work of existing social and voluntary health agencies; and in the fact that the Red Cross, through its chapter organization, is possessed of exactly the machinery best fitted for carrying out such tasks. Incidentally, however, we believe that the American Red Cross would itself be materially strengthened by the adoption of such a program. The power of the Red Cross for the carrying out of its beneficent ideals depends on membership, financial resources and organization. It is the belief of those who have most carefully studied the question, in many countries, that the inauguration of a definite peace-time health program is the step which will prove most effective in increasing its power along all three lines.

The national Red Cross society should include in its permanent membership from 10 to 20 per cent of the population of the country. It is quite impossible to reach any such standard unless the members first of all receive something for their membership, and secondly—and this is even more important—are given something practical to do for the organization of which they form a part. The instinct of service is a strong and deep one. If we can only show to the average citizen that the burden of preventable disease is indeed a menace to the prosperity of the state, as grave as the menace of a foreign foe, we shall find ready response. The health program outlined above gives to the Red Cross member the advantage of organized instruction in the art of living which will protect him and his family from danger; and it makes an inspiring appeal to him to give his services in the task of safeguarding the community as a whole against the evils which threaten it in the form of preventable disease.

In the second place, the health program should greatly increase the financial resources of the Red Cross, not only by multiplying its membership dues, but by making it possible to secure special gifts and endowments for the specific purposes of the health campaign. The safeguarding of health has a peculiar appeal to the wealthy and public-spirited citizen; and the funds which have been obtained for specific health purposes by other organizations are merely an earnest of the potential resources which could be drawn upon for a comprehensive campaign against preventable disease.

Finally, the machinery necessary for the carrying out of the health program would provide the Red Cross with an ideal organization, not only for the attainment of these specific purposes, but also for the execution of the tasks of disaster relief and war-time service. The improvisation of machinery to meet an emergency is always a difficult task, but

the strengthening and vitalizing of chapter organization which would result from an intensive health campaign would be turned in an instant to the special objective of disaster relief and would furnish a basis for immediate efficiency in the face of a war emergency.

For all these reasons we believe that the inception of a comprehensive health program by the American Red Cross would not only constitute a public service of the first magnitude, but would greatly strengthen the Red Cross for all the other tasks which may be before it; and we urge that such a program be undertaken, along the general lines laid down above, at the earliest possible moment.

(Signed)

WILLIAM H. WELCH, Chairman.
HERMANN M. BIGGS,
THOMAS S. CULLEN,
HUGH S. CUMMING,
LIVINGSTON FARRAND,
FRANKLIN H. MARTIN,
FRED B. LUND,
GEORGE MORRIS PIERSOL,
JOHN H. J. UPHAM,
C. E. A. WINSLOW.

SHEPPARD-TOWNER LAW

The following correspondence is submitted for our members' information:

To the Secretary-Editor:

At a conference between the members of the Committee on Civic and Industrial Relations and the State Council of Health, it was agreed that I should be requested to appoint a committee representing the State Medical Society, to confer with the State Council and Commissioner of Health on the public policies and activities of the State Department of Health.

In accordance with that request I appointed the following members of the State Society to such committee:

J. G. R. Manwaring, Flint; G. L. LeFevre, Muskegon; Jas. E. Davis, Detroit; J. D. Bruce, Saginaw; A. M. Campbell, Grand Rapids.

Yours truly,

W. T. Dodge, President.

The following letter was sent to the appointed men:

Doctors J. G. R. Manwaring, Flint, Chairman; G. L. LeFevre, Muskegon; Jas. E. Davis, Detroit; J. D. Bruce, Saginaw; Alex M. Campbell, Grand Rapids,

Gentlemen:

I am advised by President Dodge that at a conference held in Lansing, February 26th, between the State Commission of Health and Committee on Civic and Industrial Relations of the State Medical Society, an agreement was reached whereby President Dodge should appoint a committee representing the State Medical Society that is to confer with the State Council and Commissioner of Health in regard to the public policies and activities of the State Department of Health.

In accordance with the president's instructions I am advising you of your appointment as a member of this committee.

Yours truly,

F. C. Warnshuis, Secretary.

President Dodge addressed the following letter to the Committee:

Doctors J. G. R. Manwaring, Flint, Chairman; James E. Davis, Detroit; Alexander M. Campbell, Grand Rapids; G. L. LeFevre, Muskegon, J. D. Bruce, Saginaw.

Gentlemen:

At the instigation of the Committee on Civic and Industrial Relations of the Michigan State Medical Society, a conference was held with the Council and Commissioner of Health last evening, at which it was mutually agreed that I, as president of the Michigan State Medical Society, should be requested to appoint a new Advisory Committee, composed of representative men who have not heretofore been actively concerned in any controversy with the State Department of Health, either as supporters or opponents of any policy of said department.

The Committee on Legislation and Public Policy which has recently at my request served in that capacity, has now asked to be relieved of that duty. I therefore take pleasure in appointing you gentlemen members of that committee. Your names have been submitted to and approved by the members of the Committee on Civic and Industrial Relations, who were present at the conference, as well as by four councillors of the State Society who have been consulted.

The Council and Commissioner of Health give assurance that you will be hereafter asked to pass your opinion upon any new policies considered by such department, and that you will be asked to investigate the present policies of the department and its methods of administration, and that your recommendations shall receive thoughtful consideration and so far as practicable be adopted as the policy of such Health Department.

I am hoping that each of you will find it convenient to accept this appointment and in that capacity conserve the best interests of the medical profession which you directly represent, and by so doing serve the interests of the people of the state, whose improved health conditions are the joint object of our profession and our State Health Department.

Respectfully yours,
W. T. Dodge, President
Michigan State Medical Society.

The following is the report of the Committee Meeting:

REPORT OF MEETING WITH OFFICIALS OF THE STATE HEALTH DEPARTMENT

The Committee on Civic and Industrial Relations met in Grand Rapids on February 25th, and after a full discussion of the Sheppard-Towner bill, decided to hold an adjourned meeting with the State Health Officer at Lansing the next evening.

There were present at this adjourned meeting, President Dodge, Dr. Olin, the Commission and Council of Health, Dr. Hume, Chairman of the Committee on Legislation and Public Policy, and the Committee on Civic and Industrial Relations.

The existing Advisory Committee requested to be relieved and in accordance with an amicable understanding with the Department of Public Health, President Dodge appointed a special Advisory Committee to co-operate with the State Health Department in administration of the health laws. By this organization and agreement the committee feels that the principal objection to the Sheppard-Towner bill has been met and removed, and the profession should now whole-heartedly and earnestly advocate the passage of the bill.

Walker H. Sawyer, Chairman pro tem.

Until further instructed by the Council or

the House of Delegates this closes editorial discussion on the part of the Publication Committee and the Editor. These columns are open for presentation of the opinions and views of our members. The Publication Committee and Editor have been sufficiently embarrassed by obeying the instructions of the Council and then being confronted by opposing activity that sought to refute the position the Journal was directed to assume and discredit the official publication of our Society.

RELIGION AND HEALTH

AUGUSTUS P. RECCORD
DETROIT, MICHIGAN

There is almost nothing with which religion has not been at some time associated. Volumes have been written concerning religion and art, religion and literature, religion and the moral law. Today our chief concern seems to be the relation of religion and health. Theories are both abundant and contradictory. From Jesus and the Old Testament prophets to Mrs. Eddy and M. Coue we have the ever recurring phenomenon of the healing of physical disease without resort to medical or surgical skill. Such a phenomenon cannot be ignored. Underneath the conflicting theories there must be a universal fact; and underneath the fact there must be a universal principle. If we can discover this principle we may be able to understand and evaluate some of the later manifestations of this healing power.

An analysis of these theories brings to light two important considerations. While all agree as to the fact of physical healing, they differ widely in their explanation of the process. These differences do not invalidate the fact. The reality of an experience is not affected by the incorrectness of one's explanation of that experience. Together with these many and diverse explanations we have an almost unanimous repudiation of the only explanation which seems to be scientifically defensible.

Properly speaking, M. Coue ought not to be included in a discussion of religion and health. The little French pharmacist not only denies that his healing power has anything to do with religion, but also disclaims the possession of such healing power. As he naively asserts, he does not heal men. He shows them how to heal themselves. And yet, in admitting frankly his understanding of the source of this self-healing power, and tracing it directly to auto-suggestion or self-hypnotism, he has disclosed the secret process which is common to all of the healing cults. The only difference between Mrs. Eddy and M. Coue is that one denies disease, the other affirms health. One declares

that ill health is an illusion; the other that good health can be had for the asking.

The followers of Mrs. Eddy deny this. They assert that physical healing is but a small part of the Christian Science program. And yet if one reads its literature or talks with its adherents he realizes that this is its most important function. Let it renounce its claim to heal all sorts of bodily infirmities or admit its inability to cure anything but functional disorders, and how long would it retain its present following? It is in reality a healing cult. By calling itself a religion it gains two distinct advantages over its rivals. It secures a basis of plausibility for its tales of miraculous and seemingly impossible healing and it obtains exemption from the restrictions with which the state seeks to safeguard the practice of medicine.

Mrs. Eddy's chief contribution to the subject of physical healing is her identification of the process with an archaic and discredited form of idealistic philosophy. Its outlines are familiar. God, or infinite Mind, is the only reality; all else is illusion. But if God is the only reality and He is good, what place is there for evil? This also is an illusion and can be banished by an act of will. Speaking of sickness, she says, "You are only seeing or feeling a belief." If one addresses the disease mentally and speaks the truth to it, "tumors, ulcers, tubercles, inflammation and deformed backs—all dream shadows, dark images of mortal thought, will flee away." Her indifference to medical science and her neglect of the ordinary precautions against disease are explained by the statement that "Anatomy, physiology, treatises on health, are all husbandmen of disease." To this she adds that one who understands the science of being "will never conclude that flannel is better than controlling mind in warding off pulmonary disease."

Mrs. Eddy's concessions to expediency are as illuminating as her affirmations. In her advice to healers she says: "Until the advancing age admits the efficacy and supremacy of mind, it is better to leave the adjustment of broken bones and dislocations to the fingers of the surgeons." Better, certainly, for the patient. Again, while hunger and thirst are mental impressions and food is wholly unnecessary to support life, yet "it would be foolish to stop eating until we gain more goodness." With this conclusion one must also concur.

In the fact of such manifest absurdity, how are we to account for the vogue of this last born among religions? In the first place it affords a welcome relief to those who have been made to believe that modern science has banished God from all effective communication

with His universe and even cast doubts upon His existence. In this it is one phase of a very wholesome reaction against the crass materialism of the last century. In the second place it presents a sufficient number of perfectly well authenticated cures to lend a semblance of plausibility to its more extravagant claims. It has brought health and happiness to multitudes who were sick in body or mind. If it were content with these credentials it would arouse little opposition. Its regular propaganda, however, is a fabric of baseless assumption. In spite of the prevalent impression that it does not advertise, its lecturers go to all of our larger cities and the lectures are published in full in the daily papers. These lectures are all of a piece. To read one is to read them all. They usually begin with fulsome eulogies of Mrs. Eddy and her wonder-working book and end with unattested statements concerning alleged miraculous cures. It is claimed that Christian Science has cured thousands of people who had been pronounced incurable by *materia medica*, giving as specific instances, cancer, tuberculosis and locomotor ataxia. If these claims are valid the world has a right to know it, and its demand for trustworthy evidence is both reasonable and just. But such evidence is not forthcoming. Christian Scientists refuse to submit their claims to investigation by competent authorities. They present, instead, the diagnosis of healers who are as unfitted to determine the nature of the disease as they are to prescribe a remedy. One could ask for no better refutation of its claims to be a science. A genuine science craves the testing of its results. It asks us to accept nothing on faith. But this pseudo-science evades every such test and protests against compulsory investigation as a violation of religious liberty. Thus the word science, which means knowledge, is used to conceal its ignorance of fact and the word Christian to safeguard that ignorance from exposure.

Christian Science, while the most popular of these cults, has no monopoly of this healing power. It is shared by faith cure, mental science, mesmerism, hypnotism and a host of others with which Mrs. Eddy and her followers have disclaimed all association. Of what value is this disclaimer in the presence of the fact that all utilize the same method, treat successfully the same diseases and fail under the same conditions? All admit of a scientific explanation and the explanation is everywhere the same.

This explanation involves nothing new, nothing mysterious, nothing which contradicts the laws of nature. A large proportion of our human ills are mental in their origin. They

are due to functional disturbance, not to organic lesion. In what is known as hysteria the mind is controlled by a fixed idea, or obsession, and through its influence is able to simulate the symptoms of almost every known disease so perfectly that skilled physicians are often at a loss to distinguish the real from the counterfeit. In such cases the ordinary remedies are powerless. Powders and pills can do no good. The disturbance comes from the mind and must be reached through the mind. Once free the mind from this controlling idea and the symptoms immediately disappear. And experience has demonstrated that the most effective liberating agent is suggestion. Whether implanted by another, suggestion proper, or by oneself, auto-suggestion, it takes root in that subconscious realm in which our instinctive and habitual and automatic activities have their origin. These activities are not unconscious; they are subconscious. By planting in the soil of this subconscious realm good suggestions in place of evil, mental health and physical well-being are both alike induced. This method was employed by physicians long before science had given it a name. It is employed today. It accounts for the fact that almost any remedy will help us if administered by one in whom we have confidence and trust, while almost no remedy will avail if administered by one in whose judgment or skill we have lost faith. As has been said, "Suggestion is no substitute for either medicine or religion, but it is a supplement to both."

Evidence of the influence of mind over body is of almost daily occurrence. Anger will poison the mother's milk, worry will cause indigestion, fear will blanch the cheek, turn the hair from black to white, and sometimes cause death. Physicians assert that when we concentrate our thought upon a certain organ of the body, nature causes a rush of blood to that organ in order to facilitate its functioning. It assumes that thought implies action. Many a man has worried himself into ill health. He becomes conscious of a strange sensation in the vicinity of the heart. He immediately assumes that it is heart disease. He reads of the symptoms and imagines each one of them in turn. He worries by day, loses sleep at night, impairs his digestion, undermines his health, and finally develops a functional disorder for which the only cure is to disabuse the mind of its obsession. It will do such a man no good to tell him not to worry. This is the fallacy of the don't-worry clubs. The moment one resolves not to worry he begins to worry. The only cure for worry is absorption in pleasurable thoughts and healthful activities. If we assume the attitude which a certain mood demands, the mood will come. Act cheerfully

and you will feel cheerful. Act courageously and you will feel brave. Draw down the corners of your mouth and you will feel grouchy.

Any cult which, by utilizing this method of mental suggestion, can dispel anxiety, banish fear and induce healthful thoughts and feelings, will be able to heal certain kinds of disease. All of these healing cults have exercised this power, consciously or unconsciously, and have helped to people the world with healthy, happy, care-free men and women. If they would content themselves with this service they would merit only gratitude. But when they reach out beyond their legitimate field, claim to cure all manner of evil and even to deny its existence, they arouse our suspicion. When they assure people that they are well when they are not, and so discourage resort to measures by which certain diseases, if taken in time, may be cured, they deserve our censure. And when, by attempting impossible cures, and disregarding the ordinary precautions against contagion and infection, they not only jeopardize the lives of the sick, but also menace the health of the well, they provoke legislation. The time will come when failure to provide medical aid for dependents—whether little children or aged men and women—will be a penal offense. The state cannot, under the plea of religious liberty, sanction the continued disregard of the results of centuries of investigation and research on the part of trained workers in the fields of medicine and surgery. Science has achieved marvelous advances in the departments of biology, physiology, chemistry and other sciences upon which the theory of medicine is based. To ignore them all in order to rely upon divine power is folly. Biblical criticism has destroyed forever the old belief in an infallible bible and in the authenticity of every recorded miracle. To base a theory of healing upon the literal interpretation of a single scripture text, coupled with the acceptance of all of the miracles of healing, and reinforced by the vague promise, "Greater things than these shall ye do," is almost a crime.

Thus far the world has been saved from the pernicious results of such a faith by the fact that few of its adherents have accepted it as a working hypothesis. They live in an atmosphere of contradiction and inconsistency. They call the material world an illusion and yet treat it as a fact. They affirm that pain and sickness and death are imaginary and yet they are as anxious about food and clothing and shelter and as fearful of exposing themselves to extremes of heat and cold and to the ravages of contagious disease as their less spiritually minded fellows. Their final emancipation from the maze of fact and fancy, truth and fiction, in

which they are now wandering may come through this same saving common sense.

Meanwhile, one cannot escape the conviction that these various healing cults are simply exploiting a truth which is common to all religion. One does not need to go outside of his own church or his own faith in order to secure all that any one of them has to offer. Why journey to the pool of Bethesda and linger upon its borders if, as Jesus said, it is one's faith that makes him whole? One does not need to deny the evidence of his senses and repudiate the results of his reasoning processes in order to know that spirit, not matter, is the fundamental reality. One does not need to deprive himself of the best results of medical knowledge and surgical skill in order to know that nature tends to cure its own ills. One does not need to accept the hollow pretensions and extravagant claims of every self-appointed prophet or seer in order to avail himself of the laws of health. If one really believes that God is in His heaven, he must believe that "all's right with the world." If one believes that He has given to us His best beloved Son, he must believe that with Him He will freely give us everything that is essential to our well-being. If one believes that the laws of nature are the laws of God, then he must believe that conformity to those laws will bring health of body, sanity of mind and serenity of soul. These are the goals of every legitimate theory of medicine; they are fundamental to every well articulated religion.

Editorial Comments

This and the coming few years will witness the profession being called upon to decide more vital problems concerning its future and its relation to the public than at any time during the past 10 or 15 years. Many new conditions are confronting us. New and strange situations will arise. One obstacle will hardly be surmounted and just as we commence to sit back for a rest period a new one will be hard upon us pressing for solution. Just as Ex-President Kay recently wrote us, "Last year it was Lorenz and the University, this year it seems to be maternity and health bills, and next year it will be something else, but it will all come out right in the end if we just exercise our best judgment. So do not become discouraged." There is much to ponder over in Dr. Kay's advice—"if we exercise our best judgment." These situations call for the best thought, the best judgment and the fullest co-operation of all of our members. Greatly is it to be desired that this thought, judgment and co-operation be not warped, defiled and biased by the exhibition of individual selfishness, or a personal desire to scramble out on top at the cost of bruised, discouraged, insulted fellow-men. The good of the whole and not of any single or selected small groups of doctors must be made to govern our co-operative judgment and effort. What has gone by may be termed hills, but in the distance mountains loom up before us. To climb their peaks and reach the tops with our banner unsoiled demands that every

doctor join in a concerted co-operative activity. Are you ready to subscribe your whole-hearted assistance?

"Fifteen people came to _____ Parish House to attend the clinic conducted by 'Dr.' _____, disciple of the school of auto-suggestion." What is the school of auto-suggestion? Who are its disciples? Who confers upon them the degree of Doctor, and what comprises the requirements for that degree? We confess we do not know.

Auto-suggestion, psychology, psycho-analysis, dream-interpretations, analysis of obsessions are all terms that the public is conjuring with while puerile lay students (?) are going about the country conducting classes and clinics. The public is being told that these disciples, by their interpretation of dreams, have a new avenue for relief from their ills, actual and imagined. As a result the people are consulting these disciples in increasing numbers.

We are not attempting to decry psychiatry, psycho-analysis or the teachings and theories of Freud, Brill, Dubois and other eminent psycho-analysts. We recognize that psycho-analysis has well established its fundamental principles and scientific basis. We concede that men, properly trained, are able to interpret suppressed obsessions. We also conclude that as a profession we are neglecting this field of neurology. The public has glimpsed some of its value and are seeking to embrace psycho-analysis, though incapable of determining its limitations and applications. As doctors we are again stoically silent. We fail to take the necessary few minutes to enlighten the inquiring individual, and content ourselves with the self-satisfied "Pooh, Pooh." In doing so we are again erring and all too soon we will wake up and find a new cult prospering in these neurological fields. The obligation rests upon our neurologists to outline the attitude we must assume in regard to this problem that involves their specialty.

"For the general practitioner a well filled library is one of the few correctives of the premature senility which is so apt to overtake him. Self-centered, self-taught, he leads a solitary life, and unless his everyday experience is controlled by careful reading, or by the attrition of a medical society, it soon ceases to be of the slightest value, and becomes a mere accretion of isolated facts, without correlation. It is astonishing with how little reading a doctor can practice medicine, but it is not astonishing how badly he may do it." Think it over.

The last time that the State Society met in Grand Rapids was on the occasion of our fiftieth anniversary meeting in 1915. Grand Rapids has an established reputation for hospitality. While death has taken from our midst many who were prominent in our state organization, they who have succeeded them are imbued with that same spirit of good-fellowship. Remember the dates. September 11, 12 and 13.

The following committee on local arrangements has been appointed:

Executive: General chairman, Dr. Burton R. Corbus; chairman of sub-committees, Dr. James Brotherhood; general secretary, Dr. Frank C. Kinsey.

Committee on—

1. Meeting places, Dr. Alden Williams.
2. Finance, Dr. Frank C. Kinsey.
3. Exhibits, Dr. Verne Wenger.
4. Entertainment, Dr. Alex M. Campbell.

5. Ladies, Dr. Faith Hardy.
 6. Reception, Dr. C. C. Slemons.
 7. Hotels and reservations, Dr. F. C. Warnshuis.
 8. Automobiles, Dr. S. L. O'Brien.
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President Dodge sets forth how some of our sister organizations have attempted to solve the problems of public relationship and the division of opinion in our own state. It's a subject the Journal has preached about for the past 10 years. It comes to a near crisis every time the legislature convenes and then it is permitted to go unsolved for two years and up it bobs again. Until a definite policy is determined upon, we cannot expect to attain a desired demonstration of concerted action. Why not make this the last year of divided activity? The Journal puts forth the challenge. Our meeting is not until September. Before that time it would be well to hold a conference, as suggested in an editorial in this issue, and such conference having formulated a definite plan, their recommendations can be presented to our house of delegates for intelligent action and adoption. It's time we adopted a definite and sane policy.

The Surgeon General of the Public Health Service asserted recently in a conference in Chicago that the doctors and the public were to blame for poor health service. We disagree. If there is failure, and records are available, it is due to the policy and methods of officials rather than to public and medical dereliction. Just as soon as they come off their high horse and give evidence of a willingness to do more co-operation and less dictation, then may they expect some useful progress. We protest, also, their constant attempt to blame their inherent failures upon the profession and their studied effort to excuse their mistakes and ine...ciency by discrediting the doctors.

We sincerely trust that the Wayne County Medical Society will be able to successfully conduct the proposed Health Exhibit. This is not a commercial exhibit, put on by business agencies. As a profession, we do not put our thoughts before the public in a right way, nor in a language that they can understand. They do not understand medical lingo or theories and principles. The issue amounts to one thing—education. We try to force our measures on them when they do not know that we are right. They look upon us as arrogant, intolerant and bigoted and think we are trying to put something across from selfish motives. The remedy is to teach them what we are doing, what disease is, what the causes of diseases are and how disease, therefore must be treated. This is done more effectively by exhibits than by booklets, articles and non-illustrated lectures. That is why this proposed Health Exhibit for Detroit is potent for so much good. It demonstrates and visualizes so that he who sees may readily grasp the truth and its application. Therefor our good wishes for the exhibit and congratulations to the Detroit profession for undertaking this educational movement.

Members desiring to read papers before sections at our annual meeting should register their desires now with the section officers. Programs are being arranged for now and are usually filled three months before the annual meeting. If you apply in June or July you will be disappointed for section programs will have been closed by that time.

The golf special train that is being arranged for the trip to San Francisco in connection with the annual meeting of the American Medical Association will prove to be a most interesting and pleasurable way of journeying to the coast.

The train will be DeLuxe and we are promised the latest railway equipment. We will run on our own schedule and be accompanied by a personal representative of the Railroad company.

The stops each day will be of sufficient length for everybody to play 18 holes of golf on five of the finest courses in the country. A personal representative has called upon the officers of these golf clubs and we have been assured every courtesy and attention. There will also be time for sightseeing for those playing golf. Those not playing golf will be entertained during the stops by delightful automobile rides.

A special "comaraderie" will be striven for while enroute by means of bridge games, concerts and social entertainment.

Manufacturers have contributed prizes in golf balls, clubs, caps, goggles and similar paraphernalia. Best foresomes, low scores and medal scores will be rewarded by these prizes. Other contests will be arranged.

The train will leave Chicago on June 17 at 8:00 p. m., and reach San Francisco during the morning of June 23. The fare is \$235.00 and includes half compartment, all meals enroute, all auto-taxi charges to and from grounds, all green and caddy fees, all tips, and return ticket good over several optional routes. Return Pullman extra. No extra charge for automobile rides for those not playing golf. Your wife and family are welcome. Party limited to 125 people.

This plan should prove a delightful way in making what is otherwise a long, tiresome journey. For details and reservations write Dr. F. C. Warnshuis, Powers Theatre Bldg., Grand Rapids, Michigan.

"Salvation am Free," exhorted the colored minister during his entire sermon. The poor parishioner at the conclusion of the sermon, and as the collection plate was being passed, chided the pastor about "salvation being free." "Shut youh mouf, niggah," replied the pastor, "Water is free in the river two miles away, but if you has the city tote it up to youh house in pipes you has got to pay foh the plumbin'."

Somebody has to pay for the "plumbing" in all co-operative effort. Your dues go but a short way. They help, if paid promptly. Advertising revenue is also of assistance, provided you patronize our advertisers and thus enable us to increase this revenue. Unless you accord this patronage your "plumbing" bills will be high, or the amount of "salvation" will be small. Will you give this patronage?

If you have neglected to pay your 1923 dues, this is the last issue of the Journal you will receive until the cause of your suspended membership is removed. You will also be without the protection afforded by our Medico-Legal Committee. You have until the 15th of this month to pay your dues to your County Secretary.

What about your professional announcement in our advertising section? Please turn to that department of your Journal and if this appeals to you, may we not have your order? We need this assistance to be able to send you a larger, better Journal. Will you lend this aid?

Correspondence

The Editor of the Journal of the Michigan State Medical Society:

Much ado about the adoption of the provisions of the Sheppard-Towner act by the state of Michigan. Let us dispense with the froth and get at the substance of the project.

Is there need for the enactment of such a bill?

One in every 150 women dies in this country from childbirth; yearly 17,000 young women die in the United States from causes associated with childbirth. Annually about 112,000 babies are born dead and 100,000 die during the first month of life. In Michigan 545 women died in 1922 as the result of childbirth, and 6,731 babies died the first year of their lives.

Is it possible to decrease the loss of lives, the result of childbirth?

A recent survey in several of the largest American cities showed a reduction of maternal mortality the result of childbirth from 50 to 75 per cent. The reduction in infant mortality for babies under one month of age who had pre-natal care was 40 to 75 per cent, compared with the death rate for infants under one month who had no pre-natal care.

New Zealand reduced her infant death rate from 105.9 to 45.3 per thousand from 1872 to 1919 by means of pre-natal instruction.

How will the Sheppard-Towner act reduce infant mortality in Michigan?

By a campaign of education through—

1. Education of mothers in the care of themselves and their infants.
2. Breast feeding, or at least, better feeding of infants.
3. Education of nurses in infant and maternal work.
4. Complete birth and death registration.
5. Safer milk supplies and combatting diarrhoeal and contagious diseases.
6. Establishing mother and baby health centers.

What effect will the Sheppard-Towner act have upon the medical profession?

It will increase the work and income of those doing general or obstetric practice.

Why will the work and income of the physicians be increased through the Sheppard-Towner act?

The expectant mother, who has never had medical care during pregnancy, will be educated to see the need of it. As she notes the beneficial effect upon her unborn child from proper supervision during pregnancy, she will demand medical supervision during that period. Incidentally, routine physical examination during pregnancy uncovers complicating diseases, such as syphilis and nephritis, which require further medical attention. All this creates work for the physician which would not exist without the education of the mother to the importance of pre-natal care. The increased medical work will result in increased medical income.

Can the enactment of the Sheppard-Towner act injure the physician?

No. The act is aimed solely at the reduction of the high mortality of mother and babe by means of education in pre-natal care.

Why should the physician support the Sheppard-Towner act aside from the pecuniary benefit he may derive from its enactment?

The purpose of modern medicine is entirely constructive—to reduce disease and conserve life so far as it lies in its power.

Modern medicine uses education as its most pow-

erful weapon in combating disease as is shown in the cancer and tuberculosis campaigns. As this act proposes to reduce mortality incident to childbirth by means of education of the public, it follows along lines acceptable to the medical profession.

How does the public of the State of Michigan view medical opposition to the Sheppard-Towner act?

As subversive to the interests of public health. It sees the medical profession lacking in constructive ideals because it attacks an act which will reduce mortality. It considers the medical fraternity so reactionary as to refuse to serve the public in the beneficent way the public expects. It asks, "Is this profession as altruistic as it claims to be when it attacks, instead of fosters, an act aimed at conservation of life?"

What effect will opposition of the Sheppard-Towner act by the medical profession of Michigan have upon the public?

It will act as a boomerang to the medical profession. We ask and expect support of the public in medical matters. But we oppose the enforcement of a constructive medical act adopted by the public. How can we expect the public in return to support medical legislation adopted by us? When the medical fraternity comes to the legislature for enactment of medical laws, it will probably find that body in the same attitude that the medical profession has taken toward the Sheppard-Towner act—opposition.

Walter E. Welz,
2444 Mt. Elliott Ave.
Detroit, Michigan.

REPLY

It is a rare campaign in which, sooner or later General Statistics does not take the spotlight and Glittering Generalities occupy the center of the stage. Dr. Welz asks us to scrap the rights of a sovereign state to govern its purely local affairs, to brush aside the Constitution of the United States, to get rid of all this so-called froth and get down to brass facts, figures.

Before taking up this subject of statistics, it might be well to recall the saying of a wit that "Figures do not lie, but that liars do figure." We all know, that given the same set of figures, one eminently honest and worthy statistician will prove that his side of the case in unassailably correct, while another equally good and honorable man will prove to his own satisfaction that it is all wrong. You pay your money and you take your choice. But taking it for granted that Dr. Welz has either compiled his own figures, or at least, has checked them up very carefully, let us ask a few questions. If, as stated, six out of every 950 women die in childbirth, (1) what proportion of those six died for lack of education in pre-natal care? (2) How many died from lack of proper medical attention? (3) How many died from physical malformations? (4) How many died from practices which brought about physical conditions which made survival impossible? If 17,000 young women die early, as Dr. Welz states, from causes attendant on childbirth, will he tell us what were the causes and in what proportion those causes were divided. How many women brought this condition on themselves, not through ignorance of what it meant to them—how many wanted to abort—how many dressed, played and worked under conditions which meant so much at a critical time? When these questions are answered in detail, then the statistics quoted will amount to something. As they stand they mean nothing, excepting that a death certificate says thus and so, and we all know that death certificates have been misleading. As long as human nature is as it is, as long as men

and women will go their own way, the value of statistics on this score are bound to be more than questionable.

The claims made for what the Sheppard-Towner bill will do rival those of a correspondence school, where men are taken from the \$35 a week class and translated almost overnight into the \$50,000 a year grade. Sheppard-Towner will eliminate all danger from childbirth—Sheppard-Towner will make all women to become mothers—Sheppard-Towner will absolutely guarantee to every child born into the world a sound mind in a sound body. This bill will increase the work of the general practitioner—it will crowd the offices of the specialist on obstetrics—in the twinkling of an eye, the world will be reformed and all this is to be accomplished by a correspondence course on maternity and infant hygiene under the control of the Federal Department of Labor with the executive powers lodged in a maiden lady, a Kentucky gentleman and a sanitary engineer. If the Department of Labor can accomplish this mighty work in a purely medical matter, what could not the University of Michigan do if it put its medical corps at work—its medical director, its superintendent of hospitals, its training school for nurses and its equipment for conducting extension courses on maternity and infant hygiene. Why not utilize the University forces instead of creating a new department with additional office holders and additional taxes? Why duplicate the work?

Dr. Welz takes to heart the fact that doctors may not be thought altruistic in fighting against this Sheppard-Towner type of legislation. If Dr. Welz favors the bill, because, as he states, it will put money in the hands of the physician, well and good, that is his privilege. He is entitled to his opinion and he has the right to work and fight for his own pocketbook, but it does not give him the right to question the good faith of the men who are opposing this measure. We want to know whether or not the necessity exists for this correspondence school of maternity and infant hygiene. As given, Dr. Welz's figures prove nothing—secondly, we want a purely medical matter such as this bill placed under medical control, not under the control of the Federal Department of Labor; thirdly, we deny the right of the United States to control in a purely local matter; fourthly, if we are to have a correspondence course in maternity and infant hygiene, we want it conducted by medical men in a medical way, and where will you find better men than in the State University? We do not believe that a new department, manned by non-practicing physicians, nurses and state office holders can do any good in promoting maternity and infant hygiene education. Most of us believe that it is simply a case of furnishing more jobs for a political machine.

If these demands are not just and we are to be denounced and pilloried for advocating such measures, then, indeed, is common sense at a discount and maudlin sentimentality at a premium. We are warned to beware of getting in wrong with the public and it is hinted that the legislature may get us, too, if we don't watch out. What constitutes the public? Does it consist of the all talkers and no-doers—the restless, autocratic organized minorities who are trying to tell us when to go to bed and when to get up—when and how to sneeze, or is it the great inarticulate majority who are so busy trying to get money to pay the taxes imposed on them by the organized minorities that they have no time to careen around the country, saving everybody from themselves? But, granted that we do get in all wrong, is that any reason why we should remain silent, when we believe that a gross wrong is being perpetrated? Expediency doth make cowards

of us all, but to stand for the right in the face of all opposition means that at least we can respect ourselves.

George E. Frothingham,
Chairman Committee on Civic
and Industrial Relations.

The Editor of the Journal of the Michigan State Medical Society:

A regular meeting of the Houghton County Medical Society was held March 5, 1923 and a greater portion of the evening was given over to the discussion of the Sheppard-Towner bill.

A resolution was passed registering the Society's opposition to the Sheppard-Towner bill and also their disapproval of the action of the Health Commissioner in quietly securing the temporary acceptance of this law. Copies of this resolution to be sent to the representatives of this district.

Yours,
Chas. E. Rowe, Secretary.

The Editor of the Journal of the Michigan State Medical Society:

Will you please make note in the April issue of the Journal that the Fiftieth Anniversary Meeting of the Northern Tri-State Medical Association will be held at Cleveland, Ohio, April 10th and 11th. The first day will be devoted to surgical and medical clinics and the second day to papers and discussions.

Very truly yours,
Dr. C. W. Haywood,
Secretary, Northern Tri-State Med. Assn.

The Editor of the Journal of the Michigan State Medical Society:

I have read with great interest the signed editorial of Dr. C. F. McClintic of Detroit on the subject of pre-medical education. I think his suggestion should be re-iterated until its reasonableness commends itself to every legislator in this state. The formula is simple: Demand of every applicant for a license to practice the science of the healing art the same academic, that is, non-professional education now demanded of candidates for medicine or law. In substance, four years high school course and at least two years college work of the standard set by the University of Michigan should be required. In other words, demand a reasonable preliminary education and the so-called "school" of medicine may be left to take care of itself.

Sincerely yours,
J. H. Dempster.

To the Presidents and Secretaries of All State and County Medical Societies:

Dear Doctor:

Please consider this a fraternal and personal letter from the members of the California Committee of the A. M. A. Convention to you and every member of your society. It is a special invitation to you to attend the 74th Annual Convention of the A. M. A. in San Francisco, June 25 to 29, 1923.

All of the 4000 members of the California Medical Association are hosts at this year's meeting. We are making plans for a great meeting, with many special features, and we want you to come.

The interest and co-operation of our leading civic, commercial, transportation, hotel, tourist and other agencies has been secured to help visitors with any plans or problems they may have regarding the trip.

All the scientific meetings, all exhibits, the House of Delegates, and, in fact, all important activities will be held in one building—the Civic Auditorium—close to the commercial and hotel section of the city.

Many social, sight-seeing trips and tours are being arranged to suit the convenience of visiting Fellows and their friends.

Monday and Tuesday, June 25 and 26, will be given over to a series of nearly 100 Diagnostic Clinics. These will be given in the accredited hospitals of San Francisco and Oakland by both visiting and California Fellows. They will cover many subjects.

Monday and Tuesday, July 2 and 3, Post-Convention Diagnostic Clinics will be held in many places in the state, under the auspices of one of the forty-one county medical societies or hospitals accredited by the Council on Medical Education and Hospitals of the A. M. A.

Please ask any of your members who contemplate coming to the convention to make any request for service of any kind of our offices. Address Dr. W. E. Musgrave, Chairman California Committee, Convention Headquarters, 806-809 Balboa Building, San Francisco. Watch the columns of the Journal of the American Medical Association for convention news items.

Sincerely yours,

Ina M. Richter, Secretary,

California Committee of Arrangements.
Chairman, W. E. Musgrave,
California Committee of Arrangements.

The Editor of the Journal of the Michigan State Medical Society:

I believe you know that a meeting of physicians and others interested in laboratory work in Detroit passed a resolution protesting against Senate Bill No. 131. The committee appointed at the meeting took a mail vote of the physicians of the state on the resolution, with the following result:

Total vote, 1673.

In favor of the resolution, 1666.

Opposed to the resolution, 7.

It seems very clear then that the medical profession is practically unanimous in opposition to any legislation looking to the regulation and control of technicians and laboratory assistants.

The bill was killed in committee by the prompt and emphatic expression of the opposition of the medical profession to it.

Very sincerely yours,

C. G. Jennings

Chairman of the Committee.

Deaths

Dr. W. E. Burtless, St. Clair, died March 11, 1923.

BIOGRAPHY OF

ERNEST KEYS CULLEN, M. D.

Ernest Keys Cullen was born in Belleville, Ontario, on May 14, 1878. His father, Thomas Cullen, one of Canada's foremost Methodist ministers, was born in the County of Fermangh, Ireland, coming to Canada in childhood. His mother, Mary Greene, was born in Penzance, Cornwall, England, her father coming to Canada in the early forties as a Bible Christian Missionary.

Cullen attended the public schools in Toronto, Sarnia and Aylmer, and then went to the high school at London, Ontario. Later he went to the Parkdale Collegiate Institute in Toronto. In Toronto, Cullen, during childhood, with his brother, Thomas, worked on a newspaper route, both boys picking up their papers at the police station a little after 5 in the morning and delivering them over an area of several miles. During the summer vacations while in the high school, he was employed on one of the large steamers plying between Detroit

and Duluth, and in the course of his summer labors crossed Lakes Huron and Superior 64 times.

In the fall of 1899 he entered the medical department of Toronto University. During the summer between his first and second years he spent his time in the Pathological Laboratory of the Johns Hopkins hospital, familiarizing himself with the laboratory routine. The following summer was also spent at Johns Hopkins, working in bacteriology with Dr. Norman MacL. Harris.

During the summer vacation of 1902 he worked on the morphology of the blood of fishes and birds. This investigation was carried on at and near Chester, Nova Scotia, under the direction of Dr. Charles E. Simon of Baltimore. It formed the basis of a subsequent paper on the subject.

Ernest Cullen graduated in medicine from the Toronto University in 1903 and at once went to Baltimore, where he was made assistant in medicine in the Johns Hopkins hospital dispensary. During this year he devoted special attention to general medicine, to diseases of the skin, and to genito-urinary work in male.

The following year, 1904-05, he was one of the house officers in the Toronto general hospital.

He again returned to Baltimore and was made Fellow in Pathology with Professor William H. Welch. This position he held for the year 1905-06.

The year 1907 was spent in helping Dr. Howard A. Kelly and his brother, Dr. Thomas S. Cullen in gathering together and analysing myoma cases for the book they had in progress. Much of the success of Kelly and Cullen's "Myomata of the Uterus" was due to the indefatigable labors of the younger Cullen. He also helped his brother materially in his work outside the hospital.

In 1908, Cullen became assistant resident gynecologist on Dr. Howard A. Kelly's service in the Johns Hopkins hospital. This position he held for two years and in 1910 he was made resident gynecologist to the Johns Hopkins hospital. This position he held for the usual year.

In 1911 Ernest Cullen located in Detroit and soon became associated with the Detroit College of Medicine and Surgery. He taught not only in the clinical side of gynecology, but also gave the course in gynecological Pathology. After the late Dr. Benjamin Schenck was forced to relinquish his position on account of illness, he undertook much of his teaching.

In the spring of 1917 came the call for army service and he immediately enlisted in the Medical Reserve Corps, being one of the original members of the Harper Hospital Unit (Base Hospital 17) with the rank of captain. While in France he spent most of his time with the unit, but for a certain period was sent up on the front line with the British. He was one of the most active and popular men with the unit and his perseverance, thoughtfulness and sincere devotion to the American soldiers were outstanding features of his services.

He returned to America in the spring of 1919 with the rank of major and again took up his professional labors.

Early in 1921, the late Dr. J. Henry Carstens, president of the faculty, head of the Department of Gynecology, Professor of Abdominal and Pelvic Surgery in the Detroit College of Medicine and Surgery, was not feeling fit to conduct his classes, and Cullen then assumed the major part of the gynecological instruction. In August, 1921, Dr. Carstens died, and with the opening of the school year Cullen continued to carry on the teaching. He was later recommended by the dean of the faculty to the board of education as Dr. Carstens' successor. Accordingly in 1921, Cullen became Professor of Gyn-

cology in the Detroit College of Medicine and Surgery, and in this capacity his constant attention and sincere devotion to his students will always be remembered.

On July 3rd, he was eagerly looking forward to a well earned vacation, and had his transportation and arrangements all completed. After a very heavy day's work, and just as he was about to leave his office, he beckoned to his associate, Dr. H. P. Cushman. Cullen, it is reported, looked very pale and almost immediately vomited a large amount of blood. He was removed to Harper hospital at once. On the following day he was better, but on the morning of July 5th, bleeding started up again, and notwithstanding transfusion after transfusion, he died that evening. The only premonitory signs of any kind was the vomiting of two ounces of blood a couple of weeks before.

On April 28, 1920, Dr. Cullen married Miss Myrtle Macklem of Marlette, Michigan, who was a graduate of the Farrand Training School, 1916, and later entered the army, serving overseas with the Harper Hospital unit. He is survived by his widow and an infant daughter, Charlotte Mary Cullen.

Cullen published 12 papers. A glance at the accompanying bibliography will show that they cover a wide range and that they are most instructive. At the time of his death he was not only Professor of Gynecology in the Detroit College of Medicine and Surgery, but was also Chief of the Gynecological Department of Harper Hospital, Attending Gynecologist at Receiving Hospital, and consulting Gynecologist to St. Mary's Hospital. As Chief of the Gynecological department at Harper Hospital with his organizing ability and pleasing personality, he was able to build up a department which occupies a position of prominence among the departments in this institution. The present resident system was initiated by him and reflects great credit on him. Several well trained men have already been graduated from the various services.

He was a member of the Wayne County Medical Society, Michigan State Medical Society, American Medical Association, Detroit Surgical Society, Detroit Urological Society, American Association of Pathologists and Bacteriologists, Southern Surgical Association, American College of Surgeons, and a charter member of this Surgical Society.

Ernest Cullen had had a broad preliminary training. He was a careful, conscientious surgeon, always thoughtful of his patients, one whose good judgment and faithful work made him an outstanding figure in our midst. He was generous to a fault and beloved by all. To his friends he was known as "Ernie." He was one of those few men who have the utmost respect of the community, and who at the same time the people feel free to treat as their very own.

Removed from our midst at the height of his usefulness, his untimely taking off is deeply deplored by the profession and a wide circle of friends. He will be greatly missed.

Ernest Keyes Cullen's remains rest beside those of his father, his mother and his sister, Lilly, in Mount Pleasant Cemetery, London, Ontario.

To few men has it been granted to accomplish so much and to leave such a fragrant and lasting memory at 44 years of age. Therefore, be it

RESOLVED, That the Academy of Surgery of Detroit, will long feel the loss sustained by his death, and be it

RESOLVED, That the above be incorporated in the official records of this Society, and be it

RESOLVED FURTHER, That a copy of these resolutions be sent to the bereaved family.

(Signed),

W. R. CLINTON,
G. C. PENBERTHY.

BIBLIOGRAPHY OF ERNEST J. CULLEN, M. D.

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"Whereas, our good friend and colleague, Dr. A. I. Laubaugh, has departed from our midst; We, the members of the Houghton County Medical Society, as a body, wish to express our regret of the death of our dean, who for over fifty years, as general



A. I. LAUBAUGH, M. D., Deceased

practitioner in Houghton and Keweenaw Counties, was so faithful and hard working in his profession. His kindness and helpfulness to younger members was always greatly appreciated and will ever be remembered by all who came in contact with him."

(Signed)

Geo. M. Reese, M. D.,
J. R. Quick, M. D.,
W. T. King, M. D.,
Committee.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

WANTED

A good Doctor for a village of about 350 population with good surrounding territory. A hustler can run around \$4500 or \$5000 per year. For further particulars enquire of Lum Exchange Bank, Lum, Michigan.

For Sale—Detroit—Highest grade general practice best location, offices excellently equipped. Cash income averages \$15,000 yearly. Trained lady assistant remain if desired. Practice sold at equipment invoice if purchaser will take home furniture very reasonable. New Packard Six Coupe optional. Will remain reasonable time to assist and introduce. Can deliver ninety-five per cent of practice to personable, conscientious man. Unequaled opportunity. Come and investigate. Illness in family compels removal to milder climate. Best references given and required.

Dean R. Brengle, M. D.

St. Mary's hospital, Muskegon, has reorganized its hospital staff.

Dr. A. L. Cowan of Detroit spent the past winter in Florida.

Dr. Samuel Bell of Detroit is spending the winter in Los Angeles, Cal.

Dr. F. R. Starkey of Detroit spent the month of March traveling in Mexico.

Doctor and Mrs. I. S. Townsend of Detroit spent the past winter in the south.

Dr. George E. McKean of Detroit spent the month of February in Miami, Fla.

Dr. B. R. Corbus of Grand Rapids spent two weeks in Florida during the fore part of March.

Dr. F. Dunbar Robertson of Grand Rapids practiced mashie shots at Biloxi, La., during March.

Dr. Cole read a paper on "Pyelography" before the Highland Park Physicians' Club, Feb. 1, 1923.

Butterworth hospital, Grand Rapids, commenced the erection of its new 225 bed hospital, April 2nd.

Dr. D. Emmett Welsh of Grand Rapids is expected home from Los Angeles the middle of April.

Dr. Henry Carstens read a paper on "Thermometry" before the Detroit Medical Club, Feb. 15, 1923.

Dr. R. H. DeCoux of Grand Rapids sustained a

fractured hip on March 15th by falling in his bathroom.

Dr. S. L. Rozema of Grand Rapids is incapacitated on account of a broken leg, received in an automobile accident.

Dr. Moehlig read a paper on "Endocrinology" before the Detroit East Side Physicians' Association, Feb. 16, 1923.

Dr. Paul G. Woolley read a paper on "Laboratory Examinations of Tumors," March 1, 1923, before the Detroit East Side Physicians' Association.

Dr. G. Edward de Schweinitz, president of the American Medical Association, was given a dinner by the Chicago Medical Society, March 6, 1923.

Sir Auckland Geddes, British ambassador at Washington, received recently the honorary degree of Doctor of Laws from Johns Hopkins University.

The trustees of the Wayne County Medical Society have announced the sale of the society's property at 65 E. High street, for \$110,000.

Dr. George Kamperman gave a talk on "Caesarian Section for Placenta Praevia" before the Detroit Academy of Medicine, Feb. 13, 1923.

Dr. A. L. Jacoby read a paper on "Crime as a Medical Problem" before the Detroit Academy of Medicine, March 13, 1923.

St. Mary's hospital, Grand Rapids, is planning a half million dollar addition to its present modern building. Construction to begin early in 1924.

Dr. M. A. Mortensen of Battle Creek returned March 12th from a three months' visit to the clinics of England and Continental Europe.

Doctors Campbell, Frothingham, Simpson and Grant presented a number of interesting cases to the Detroit Otolaryngological Society, Feb. 21, 1923.

Dr. Rudolph Matas of New Orleans, has been elected a member of the Royal Academy of Barcelona (Spain) and a corresponding member of the Societe de Chirurgie at Paris.

Dr. Don M. Campbell read a paper on "Some Further Observations on Sympathetic Ophthalmia," before the Detroit Ophthalmological and Otological Club, March 7, 1923.

Dr. John H. Kellogg of Battle Creek received the honorary degree of Doctor of Laws from the Lincoln Memorial University at Washington, Feb. 12, 1923.

The transfer of the title of the Wayne County Medical Society library to the Detroit Library Commission was recently announced by the board of trustees of the Wayne County Medical Society.

Dr. T. B. Cooley read a paper on "Non-Tuberculous Infections of Bronchial Glands in Childhood" before the Detroit Academy of Medicine, Feb. 27, 1923. The paper was illustrated with lantern slides.

The Greek government has conferred the War Cross on Doctors Mabel Elliot of Benton Harbor, Michigan, and Esther Lovejoy of New York, for services with the Near East Relief in Smyrna.

The body of Professor William K. Roentgen, discoverer of the Roentgen Ray, was cremated at Munich, Feb. 13, 1923. The immediate cause of his death was a strangulated hernia.

Forrest W. Barkdale, chiropractor, was sentenced at Cadillac, Jan. 23, 1923, to confinement in the county jail for a period of 90 days and costs amounting to \$50 for violation of the medical act.

Dr. J. F. Baldwin, ex-president of the Ohio State Medical Society, read a paper on "Some Great Charlatans of History" before the Wayne County Medical Society, Feb. 19, 1923.

Dr. E. H. Hume, head of the Yale Medical School in Yali, China, read a paper on "Medicine in China" before the Wayne County Medical Society, March 12, 1923.

Professor R. G. Hoskins of the Department of Physiology in Ohio State University read a paper on "The Present Status of Endocrinology" before the Wayne County Medical Society, March 5, 1923.

The Rockefeller Foundation elected recently to its board of trustees Dr. Ray L. Wilbur, president of Stanford University. Dr. David L. Edsall of Harvard University was elected a member of its International Health Board.

Dr. Herbert A. Bruce, Clinical Professor of Surgery in the University of Toronto, read a paper on "Some Observations in the Diseases of the Gall Bladder and Pancreas" before the Wayne County Medical Society, Feb. 26, 1923.

The new hospital of the National Home for Disabled Soldiers, Dayton, Ohio, was opened for public inspection, Jan. 22, 1923. Tuberculous patients only will be admitted to this institution, which has a capacity of 250 beds.

Construction of the United States Veterans' Bureau Hospital, located between Camp Lewis and Fort Steilacoom, Washington, has been started. The entire cost will be \$2,000,000, and will involve the erection and equipment of 28 buildings.

At the annual meeting of the American Society for Pharmacology and Experimental Therapeutics, held recently in Toronto, Dr. C. W. Edmunds of Ann Arbor was elected president; Dr. E. D. Brown of Minneapolis, secretary; and Dr. Hugh McGuigan of Chicago, treasurer.

The Wayne County Medical Society has sold its land and society buildings for \$110,000. The library of the society has been given to the Detroit Library Commission and will be moved to the Detroit College of Medicine and Surgery.

On March 13th a hearing was held before the Senate Committee on Health on the Sheppard-Towner bill. Those who spoke in favor of and urged the passage of the bill were Dr. W. H. Sawyer of Hillsdale, Dr. Stuart of Flint, Dr. C. C. Slemmons and Dr. A. M. Campbell of Grand Rapids. Dr. A. M. Hume of Owosso specifically stated that he was urging the passage of the bill as an individual and not as an officer. There were some six or eight women representing various women's organizations who urged the passage of the bill.

Those who opposed its passage were Dr. A. L. Seeley of Mayville, Doctors F. A. Kelley, J. H. Wilson, C. D. Brooks and J. B. Kennedy of Detroit, and Dr. F. C. Warnshuis of Grand Rapids, who presented the resolutions of our County Societies. No

protest or opposing argument was presented by our Committee on Legislation.

County Society News

ST. CLAIR COUNTY

The St. Clair County Medical Society meets twice a month on alternate Thursday evenings. So far this year we have had three meetings at which we have had out-of-town men present papers.

On January 11, 1923, Dr. C. C. Jennings of Detroit gave a very instructive address on "The Treatment of Lobar Pneumonia."

February 8, 1923, we had three physicians from Detroit. Dr. C. Stuart Wilson presented a paper on "Hypertension," Dr. Charles Kennedy addressed us upon the subject of "Perforated Duodenal Ulcer," and Dr. J. B. Kennedy gave us a very enlightening discourse on some of the phases of legislation, interesting to the medical profession. In his paper he considered the Sheppard-Towner bill and the Chiropractic bill. The Society went on record as opposing the Sheppard-Towner bill and a committee was appointed to draw up resolutions opposing the bill and instructed to forward the report to our representative at Lansing.

On February 22, 1923, Dr. William M. Donald of Detroit read a very interesting paper on "Expectorants."

An educational and instructive program has been laid out for the year. The meetings are being enthusiastically attended.

Douglas Treadgold, Secretary-Treasurer.

Book Reviews

NURSING AND NURSING EDUCATION IN THE UNITED STATES. The Mac Millan Co., Publishers. Price \$2.00.

This is a compilation that first imparts the findings and recommendation of what is known as the Winslow Committee on Nursing and Nursing Education.

In addition there is a lengthy discussion on the Functions of a Nurse and (b), the Training of the Nurse. In this discussion the work of the nurse and the new social position she should assume is favorably presented. Her relation to public health work and to industry is set forth in a similar vein. The hospital training schools are likewise discussed with a view to changing her course and work so as to be prepared to assume the new position that is created for her.

We cannot concur with all this discussion or the recommendations made therein. We do not agree with the authoress as to this new field of nursing activity.

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